



**Exhibits for Submission to NMED
With WIPP's Comments to
the November 26, 2003 Agency-
Initiated Permit Modification**

Volume 1 of 4

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***Exhibits for Submission to NMED With WIPP's Comments to
the 11/26/03 Agency-Initiated Permit Modification***

| | No. | Date | Description |
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| Volume 1 of 4 | 1. | 9/10/99 | Report of the Hearing Officer In the Matter of the Final Permit Issued to the U.S. Department of Energy and Westinghouse Electric Company Waste Isolation Division for a Hazardous Waste Act Permit for the Waste Isolation Pilot Plant, USEPA No. NM4890139088 |
| | 2. | June 1994 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 0, Book 1 of 2, CAO-94-1005 |
| | 3. | June 1994 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 0, Book 2 of 2, CAO-94-1005 |
| | 4. | Feb. 1995 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 1, Volume 1, CAO-94-1005 |
| Volume 2 of 4 | 5. | Feb. 1995 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 1, Volume 2, CAO-94-1005 |
| Volume 3 of 4 | 6. | Feb. 1995 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 1, Volume 3, CAO-94-1005 |
| | 7. | June 1996 | Transuranic Waste Baseline Inventory Report, Revision 3, DOE/CAO-95-1121 |
| | 8. | 11/2/95 | Letter from B. Hoditschek of NMED to G. Dials of WIPP transmitting NMED comments on Revision 5 of the WIPP Part B RCRA Permit Application (Chapters A, B, and C), and requesting additional information |
| | 9. | 12/20/95 | Letter from M. McFadden of WIPP to B. Garcia of NMED providing responses to NMED's 11/2/95 comments on Revision 5 of the WIPP Part B RCRA Permit Application |
| | 10. | 3/14/96 | Letter from B. Garcia of NMED to G. Dials and J. Epstein of WIPP transmitting a Notice of Deficiency (NOD) regarding Revision 5.2 of WIPP's Part B RCRA Permit Application |
| | 11. | 4/12/96 | WIPP's responses to NMED's 3/14/96 NOD, hand delivered to B. Garcia of NMED on 4/12/96 |
| | 12. | 3/19/99 | Verbal hearing testimony of NMED's technical expert Constance Marie Walker during WIPP's 1999 RCRA Permit hearing, transcript pages 2717 - 2719 |
| | 13. | 6/25/99 | Summary of May 15, 1998 Draft Permit Public Comments and Responses to Comments by NMED, Module II.C, NMED response to Comment N-46, as reviewed by "CMW" |
| | 14. | 3/23/99 | NMED's Direct Testimony Regarding Regulatory Process and Imposed Conditions |
| | 15. | Jan. 2004 | NMED Green Gazette Newsletter, Volume I, Issue 1, Winter 2004 |
| | 16. | 1/9/04 | Request for Class 3 Permit Modification to the Hazardous Waste Facility Permit, Permit Number NM4890139088-TSDF, Implementing Section 311 of Public Law 108-137, transmittal letter from I. Triay and S. Warren of WIPP to S. Zappe of NMED |
| | 17. | 6/27/02 | WIPP Class 2 Permit Modification Request, Waste Characterization Updates and Other Process Improvements, Add U134 as a New Hazardous Waste Number, transmittal letter from I. Triay and J. Lee of WIPP to S. Zappe of NMED |
| | 18. | 11/25/02 | Letter from G. Lewis of NMED to I. Triay of WIPP approving 6/27/02 Class 2 PMR to add U134 as a new hazardous waste number |
| | 19. | Dec. 2001 | Rinchem Company, Inc., Albuquerque, NM - Final RCRA Operating Permit |
| | 20. | 12/2/97 | Rinchem Company, Inc., Albuquerque, NM - NMED request for supplementary information regarding Rinchem's Waste Analysis Plan in the Permit Application |
| | 21. | 4/24/96 | Rinchem Company, Inc., Albuquerque, NM - NMED Notice of Deficiency regarding February 1995 Permit Application |
| | 22. | 2/7/95 | Rinchem Company, Inc., Albuquerque, NM - RCRA Permit Application |
| | 23. | Sept. 2003 | Safety-Kleen, Albuquerque, NM - Final RCRA Operating Permit |

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| | 24. | 11/15/02 | Safety-Kleen, Albuquerque, NM - NMED NOD regarding 7/27/01 Permit Application |
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| | 31. | Mach 2002 | Gandy Marley, Inc. Triassic Park Waste Disposal Facility, Chavez County, NM, RCRA Operating Permit |
| | 32. | 6/11/99 | Fax from P. Corser of Montgomery Watson to G. Starkebaum of TechLaw, re: Preliminary Draft of Gandy Marley, Inc. Response to Request for Supplemental Information - May 1999 |
| | 33. | 6/10/99 | Letter from J. Bearzi of NMED to L. Gandy of Triassic Park, re: Draft Responses to Request for Supplemental Information |
| | 34. | 5/5/00 | Letter from S. Kruse of NMED to R. Davis of State Fire Marshal's Office, re: Proposed Hazardous Waste Landfill |
| | 35. | March 1988 | "Hazardous Waste Storage and Disposal in Geologic Repositories - Permit Guidance Under the Resource Conservation and Recovery Act, OSWER Directive 9523.00-1", U.S. EPA |
| | 36. | 10/17/01 | Verbal hearing testimony of NMED's technical expert Constance Marie Walker during Triassic Park's RCRA Permit hearing, transcript pages 857-859 |
| | 37. | 10/19/01 | Hearing Officer's Report, In the Matter of the Draft Final Permit for the Triassic Disposal Facility U.S. EPA No. NM0001022484, pages 97 - 98 |
| | 38. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Table of Contents and Cross-Reference Table |
| | 39. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Chapter A (incl. Part A Permit Application Form Revision 7) |
| | 40. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Chapter B |

**STATE OF NEW MEXICO
BEFORE THE SECRETARY OF THE ENVIRONMENT**

**IN THE MATTER OF THE FINAL PERMIT
ISSUED TO THE UNITED STATES
DEPARTMENT OF ENERGY AND
WESTINGHOUSE ELECTRIC COMPANY
WASTE ISOLATION DIVISION FOR
A HAZARDOUS WASTE ACT PERMIT
FOR THE WASTE ISOLATION PILOT
PLANT; USEPA No. NM4890139088**

HRM 98-04(P)

REPORT OF THE HEARING OFFICER

**STATEMENT OF THE CASE
ISSUE
FINDINGS OF FACT
DISCUSSION
CONCLUSIONS OF LAW
RECOMMENDED DECISION AND PROPOSED FINAL ORDER**

STATEMENT OF THE CASE

The United States Department of Energy ("DOE") is the owner and operator, and the Westinghouse Waste Isolation Division ("WID"), a private corporation, is the co-operator (collectively "Applicants") of the Waste Isolation Pilot Plant ("WIPP"). The WIPP facility is located in southeastern New Mexico, approximately 26 miles east of the City of Carlsbad. WIPP was designed and constructed to store and dispose transuranic ("TRU") nuclear waste and TRU waste that is mixed with hazardous waste ("TRU mixed waste") in an underground geologic repository, mined within a bedded salt formation. Owners and operators of facilities located in New Mexico that store or dispose TRU mixed waste must apply for a permit from the New Mexico Environment Department. Accordingly, Applicants seek a permit under the New

(Miscertification) *supra*; NMED's Response to Public Comment (June 25, 1999); Proposed Final Permit of June 25, 1999.

CONCLUSIONS OF LAW

Based upon the foregoing Findings of Fact and Discussion, the Hearing Officer renders the following legal conclusions:

1. The Secretary of NMED ("the Secretary") has jurisdiction to require all persons that manage, store or dispose TRU mixed waste to submit an application and obtain a final permit that includes corrective action requirements under the HWA and 20 NMAC 4.1. *et seq.*
2. The WIPP repository is a "miscellaneous unit" under 20 NMAC 4.1.101 (incorporating 40 C.F.R. §260.10); 20 NMAC 4.1.300 (incorporating 40 C.F.R. § 262.10) and subject to the standards under 20 NMAC 4.1.500 (incorporating 40 C.F.R. § 264.600 (Subpart X)).
3. DOE is a "person" under Section 74-4-3.K of the HWA and the owner and operator of WIPP under 20 NMAC 4.1.900 (incorporating 40 C.F.R. §270.2). WID is also a "person" under Section 74-4-3.K of the HWA and a co-operator of WIPP under 20 NMAC 4.1.900 (incorporating 40 C.F.R. §270.2).
4. The Secretary has authority to require and issue a final permit to Applicants for the management, storage or disposal of TRU mixed waste at WIPP under the HWA and 20 NMAC 4.1. *et seq.* Under NMED regulations, the burden of proof for issuance of a HWA permit, shall be on the Applicants. 20 NMAC 4.1.901.E.6.
5. NMED has complied with all administrative and procedural laws and regulations

respecting the application and permitting process including the pertinent provisions of 40 C.F.R. §124.32(b)(1), 270.10(c) and 20 NMAC 4.1.900, 901.

6. Pursuant to 20 NMAC 1.4.401.A. and 20 NMAC 4.1.901.E.6, Applicants are charged with the burden of proving that the permit application should be granted and a HWA permit issued. NMED has the burden of proving that the conditions it proposes in the Proposed Final Permit are justified. After establishment of a *prima facie* case, any person opposed to the Permit, or to any imposed condition therein, has the burden of going forward with any adverse evidence proving that the Permit should not be granted.

7. Pursuant to 20 NMAC 4.1.901.A.7, the Secretary must give due consideration and weight to all comments received during the public comment period and to all relevant facts presented at the public hearing.

8. Based upon the full record, Applicants have met their burden of proving that a HWA permit should be granted. Notwithstanding certain findings and recommendations of the Hearing Officer set forth herein [*see Discussion* (TRU Non-Mixed Waste and RH TRU Waste) *supra*], NMED has met its burden of proving that the conditions it proposes to impose in the Proposed Final Permit of June 25, 1999, along with all attachments thereto, are justified. Those opposed to issuance of the Proposed Final Permit, or to any conditions set forth therein, have failed to meet their burdens of proof.

9. Each permit for an interim status or new hazardous waste management facility shall contain terms and conditions as necessary to protect human health and the environment. 20 NMAC 4.1.900 (incorporating 40 C.F.R. §270.32(b)(2)).

10. Each permit must include permit conditions necessary to achieve compliance with

the HWA and regulations, including each of the applicable requirements specified in 20 NMAC 4.1.500 (incorporating 40 C.F.R. Part 264), 20 NMAC 4.1.900 (incorporating 40 C.F.R. §270.32(b)(1))

11. The audit requirement as proposed by NMED in Permit Condition³³ II.C.2 of the Proposed Final Permit of June 25, 1999, is a condition necessary for approval of the WAP in order to protect human health and the environment. 20 NMAC 4.1.901.A.8 and NMSA 1978 §74-4-4.2(C) (Repl. Pamp. 1993).

12. Permit Condition II.C.2 is a condition necessary to achieve compliance with 20 NMAC 4.1.900 (incorporating 40 C.F.R. §270.14 (b)(2) and §270.32(b)(1)) in order to address permit application deficiencies; to demonstrate compliance with the WAP; and to obtain all the information which must be known to manage, store and dispose TRU mixed waste at WIPP in accordance with 40 C.F.R. Part 264. 20 NMAC 4.1.901.A.8 and NMSA 1978 §74-4-4.2(C) (Repl. Pamp. 1993).

13. No Party or commentator has met their burden in challenging NMED's determination to impose Permit Condition II.C.2 by presenting substantial evidence that this condition is unreasonable or inconsistent with the HWA. *See* 20 NMAC 4.1.901.E.6 and 20 NMAC 1.4.401.A.

14. Permit Condition II.C.3.h is necessary to protect human health and the environment consistent with NMAC 4.1.500, .900 (incorporating 40 C.F.R. §§264.13, 270.14(b)(2)).

15. No Party or commentator has met their burden in challenging NMED's

³³ Hereinafter, unless otherwise specified, "Permit Conditions" refers to those conditions proposed by NMED in the proposed Final Permit of June 25, 1999.

Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report



June 1994

Book 1 of 2

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EXECUTIVE SUMMARY

The *Waste Isolation Pilot Plant (WIPP) Transuranic Waste Baseline Inventory Report (WTWBIR)* establishes a methodology for grouping wastes of similar physical and chemical properties, from across the U.S. Department of Energy (DOE) transuranic (TRU) waste system, into a series of "waste profiles" that can be used as the basis for waste form discussions with regulatory agencies.

The WIPP baseline inventory is estimated using waste streams identified in the recent information released in the *Mixed Waste Inventory Report (MWIR)*, supplemented by information from the Nonradionuclide Inventory Database (NID) and the 1993 Integrated Data Base (IDB). Each waste stream is defined in a waste stream profile and has been assigned a waste matrix code (WMC) by a DOE TRU waste generator/storage site. Waste stream profiles with WMCs that have similar physical and chemical properties can be combined into a waste matrix code group (WMCG), which is then documented in a site-specific waste profile for each TRU waste generator/storage site that contains waste streams in that particular WMCG.

Based on methodology presented here in the WTWBIR, a maximum of 11 site-specific waste profiles have been identified for contact-handled (CH) TRU waste and a maximum of 11 have been identified for remote-handled (RH) TRU waste. Based on analyses of existing inventories, no site has more than 10 site-specific CH-TRU waste profiles, nor more than 5 site-specific RH-TRU waste profiles. Each of these site-specific waste profiles have unique WMCG criteria and they are developed, if appropriate, for each of the TRU waste generator/storage sites. A particular site-specific waste profile, with a specific WMCG, can be combined with other site-specific waste profiles having identical WMCGs from the TRU waste generator/storage sites to derive a WIPP waste profile. Therefore, a maximum of 11 WIPP waste profiles for CH-TRU waste and a maximum of 6 WIPP waste profiles for RH-TRU waste have been identified that describe the different TRU wastes across the DOE system.

The anticipated inventory of TRU waste is defined as the sum of retrievably stored waste plus currently projected TRU waste volumes. The anticipated inventory is not sufficient to fill the allowed capacity of WIPP (calculated: $6.2 \times 10^6 \text{ ft}^3$ [$\sim 1.76 \times 10^5 \text{ m}^3$]), and scaling has been developed as a means of examining the impacts of the full repository. Additionally, there is a high uncertainty in and a current lack of data on wastes produced from decontamination and decommissioning (D&D) and environmental restoration (ER) activities. Therefore, the anticipated inventory has been "scaled" to the WIPP capacity. The scaling of the inventory in future revisions of the WTWBIR will be derived from the best available data and assumptions.

An example of five waste streams at two sites (Idaho National Engineering Laboratory and Rocky Flats Plant) has been used to illustrate the waste profile methodology. Preliminary total WIPP inventory volumes for the 11 CH-TRU and 6 RH-TRU WIPP waste profiles are provided; final volumes will be provided in Revision 1 of this document after the DOE TRU waste generator/storage sites have reviewed the data and after quality checks of the data have been completed.

Using the same waste profile methodology, the WTWBIR also estimates the WIPP disposal inventory (anticipated inventory that has been scaled to WIPP design capacity) in terms of 10 waste material parameters and packaging materials that have been identified as inputs needed

for the system prioritization (SP) and performance assessment (PA) calculations. The 10 waste material parameters and packaging materials are waste constituents that occur in TRU waste and are input parameters for one or more SP and PA models or are required to adequately describe the waste form. These parameters may change as a result of SP and PA efforts.

The 10 waste material parameters and packaging materials that are defined and included in the WTWBIR are:

- Inorganics
 - Iron-based metals/alloys
 - Aluminum-based metals/alloys
 - Other metals
 - Other inorganic materials
- Organics
 - Cellulosics
 - Rubber
 - Plastics
- Solidified Materials
 - Inorganic matrix
 - Organic matrix
- Soils
- Packaging Materials
 - Steel
 - Plastic or lead

The waste material parameter information is reported in kilograms per cubic meters (kg/m^3) and estimates of the uncertainty in the waste material parameters have been calculated, based on data derived from the NID (i.e., average, minimum, and maximum estimates of waste material parameters on a per-waste-stream basis). The maximum values for waste material parameters in the waste stream, site-specific, and WIPP waste profiles are expressed on a weight/volume basis. However, the occurrence of more than one waste material parameter at the maximum value within a waste stream is highly unlikely. During SP and PA calculations, the sampling statistics must be controlled so that several waste material parameters do not get sampled all at their maximum value (weight/volume), lest the maximum weight/volume is exceeded. A five-waste-stream/two-site example is used to illustrate the methodology for estimating quantities of waste material parameters. **The preliminary total WIPP inventory for the waste material parameters is provided and should be used in any SP and PA calculations until Rev. 1 of the WTWBIR is published, pending completion of quality checks of the data used. The nonradionuclide and radionuclide inventory presented in this report replaces any previously used information in SP and PA calculations.**

Although the initial purpose of this report is to provide data to be included in the Sandia National Laboratories/New Mexico SP and PA processes, all data are presented and explained in such a way that they can be adapted as needed for other applications. The WTWBIR, Revision 0, is presented in two parts: Book 1 contains this Executive Summary through Chapter 7, References; Book 2 contains Appendix A, Glossary, through Appendix M, MWIR Code Designations and Descriptions.

CHAPTER 1

1. INTRODUCTION

1.1 BACKGROUND

The Waste Isolation Pilot Plant (WIPP) is a transuranic (TRU) waste management facility operated by the U.S. Department of Energy (DOE). The WIPP is currently identified as the permanent disposal site for DOE TRU waste.

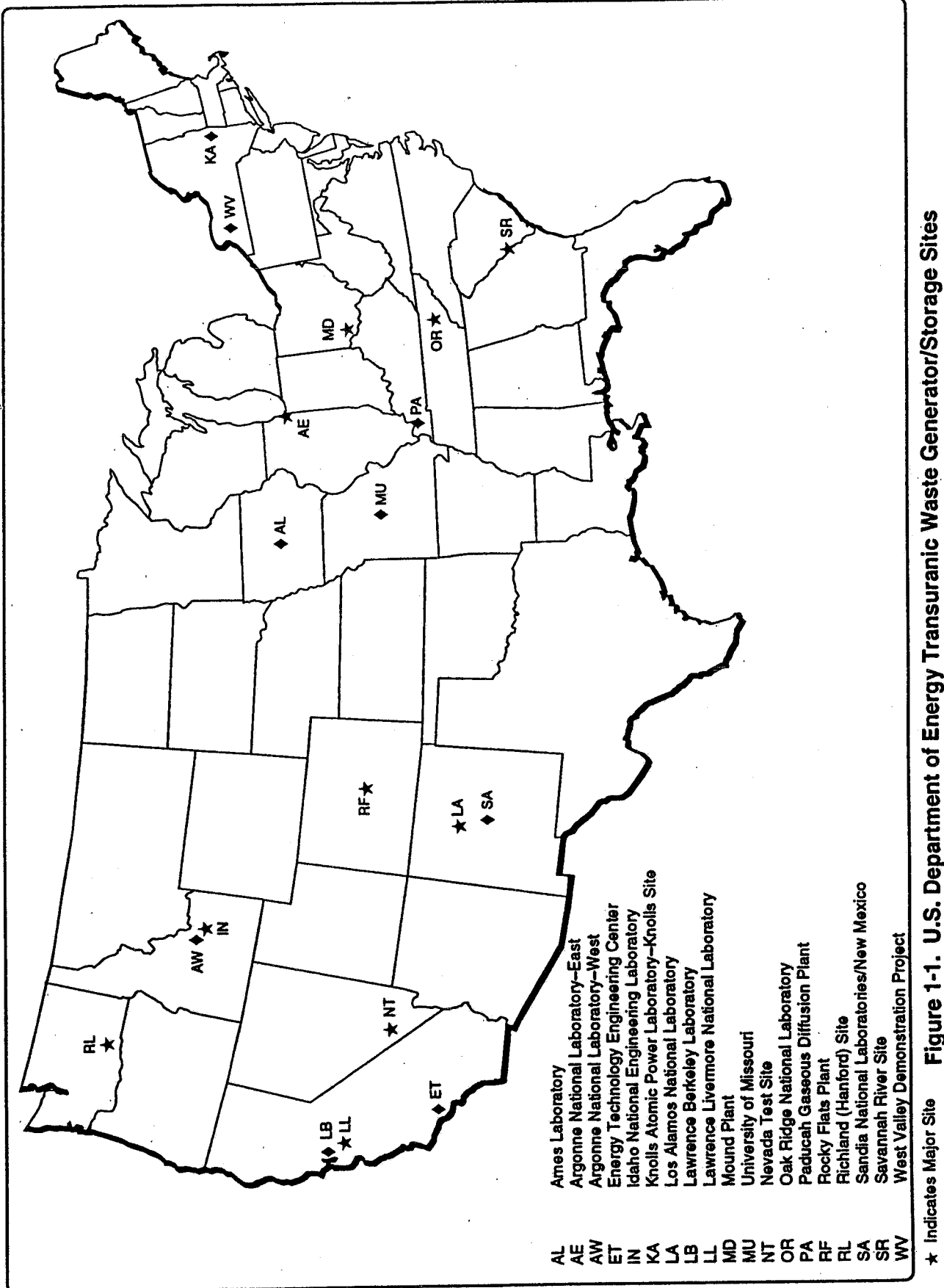
TRU waste is defined as waste that is contaminated with alpha-emitting radionuclides with an atomic number greater than 92, with half-lives greater than 20 years, and concentrations of TRU isotopes greater than 100 nanocuries per gram of waste (DOE, 1988). TRU wastes are classified as either contact-handled (CH) waste or remote-handled (RH) waste, depending on the dose rate at the surface of the waste container. CH-TRU wastes are packaged TRU wastes with an external surface dose rate of 200 millirems (mrem) or less per hour, while RH-TRU wastes are packaged TRU wastes with an external surface dose rate exceeding 200 mrem per hour. Unless otherwise indicated, for purposes of this document, all references to TRU waste include TRU waste and mixed TRU waste (waste that contains both radioactive and hazardous components, as defined by the Atomic Energy Act and the Resource Conservation and Recovery Act [RCRA] as codified in Title 40 Code of Federal Regulations [CFR] Parts 264, 265, 268, and 270 [EPA, 1980a; 1980b; 1986; and 1983]).

The DOE is committed to demonstrating compliance with all applicable regulations prior to permanent disposal of TRU wastes in the WIPP repository. These regulations are the environmental standards for management and disposal of TRU wastes as mandated in 40 CFR Part 191 (EPA, 1993b) and Part 194 (EPA, 1993a), and the RCRA regulations. The WIPP is scheduled to receive and dispose of TRU wastes from 10 major and several minor DOE TRU waste generator/storage sites (see Figure 1-1). Compliance will be demonstrated through performance assessment (PA) calculations based on the inventory of existing and currently projected waste streams developed in this report, and as reported by the DOE TRU waste generator/storage sites.

1.2 PURPOSE

The purpose of this document, the *Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report* (WTWBIR), is to document the disposal inventory of TRU waste to be emplaced in WIPP from the DOE TRU waste generator/storage sites. This inventory of CH-TRU and RH-TRU waste will be used in systems prioritization (SP) and PA calculations and sensitivity analyses that will support the development of compliance applications to the appropriate regulatory agencies regarding the operations and post-closure timeframes of the WIPP repository.

To accomplish this purpose, the WTWBIR has been developed from the best available information and process knowledge provided by the DOE TRU waste generator/storage sites. The WTWBIR describes a process for grouping individual waste streams with similar physical and chemical properties into waste profiles, based on their waste matrix code (WMC) assigned by the DOE TRU waste generator/storage sites. Waste profiles with similar WMCs, are then combined across the DOE TRU waste system to provide estimated total volumes and total waste material parameters. The methodology for this grouping and combining is discussed in detail in Section 2.3, Methodology for Development of Disposal Inventory, of this document.



The individual waste streams also are evaluated to estimate the occurrence and quantities of waste material parameters (e.g., cellulose, plastics, iron-based metals/alloys, etc.) that have been identified by Sandia National Laboratories/New Mexico (SNL/NM) as being potentially important to the performance of the WIPP repository as defined in Appendix G (see Table 1-1). The methodology, assumptions, and totals of these waste material parameters are described in Chapter 6, Waste Material Parameters.

**TABLE 1-1. TECHNICAL DATA NEEDS FOR PERFORMANCE ASSESSMENT
WASTE MATERIAL PARAMETERS**

| Waste Material Parameter | Input Variable in <u>Current</u> SP/PA Models | | Input Variable in SP/PA Models <u>Under Development</u> | Input Variable in Possible <u>Future</u> PA Models |
|------------------------------|---|----------------------------|---|--|
| | Gas Generation | Mechanical Characteristics | | |
| Iron-Based Metals/Alloys | YES | YES | YES | YES |
| Aluminum-Based Metals/Alloys | | YES | YES | YES |
| Other Metals | | YES | | YES |
| Other Inorganic Material | | YES | YES | YES |
| Cellulose | YES | YES | YES | YES |
| Plastics | | YES | YES | YES |
| Rubber | YES ⁽¹⁾ | YES | YES | YES |
| Solidified Inorganic Matrix | | YES | YES | YES |
| Solidified Organic Matrix | | YES | YES | YES |
| Soils | | YES | | |

⁽¹⁾ Only 50 weight percent included

Although the initial purpose of this report is to provide data to be included in the SNL/NM SP and PA processes, all data are presented and explained in such a way that they can be adapted for other applications.

1.3 WASTE INVENTORY TERMINOLOGY

The derivation of a disposal inventory from individual waste streams is a formidable and complex process. To document each step of this process, a system of waste inventory terminology needs to be defined so the reader may more easily follow the process. The following sections provide definitions of terminology used throughout the WTWBIR. These

definitions also are summarized in Appendix A, Glossary, of the WTWBIR. Appendix B provides a list of acronyms and abbreviations used in this document.

1.3.1 Inventory Terminology

Stored Inventory – That part of the TRU inventory currently in retrievable storage as of the time of the last data call for inventory information is known as "stored inventory." Retrievably stored waste includes waste stored in buildings or in berms with earthen cover since 1970 and does not include any waste that was buried prior to 1970 (DOE, 1994b).

Projected Inventory – That part of the inventory that has not been generated but is currently estimated to be generated at some time in the future by the TRU waste generator/storage sites is considered "projected inventory." The estimated timeframe for the projections may vary, but is usually between 20 and 30 years. "Newly generated waste" also is sometimes used as a synonym for the projected inventory.

Anticipated Inventory – For the WTWBIR, this is the sum of the stored and projected inventories, calculated:

$$\begin{array}{ccccccc} \text{Stored} & & & & \text{Projected} & & \text{Anticipated} \\ \text{Inventory} & + & & & \text{Inventory} & = & \text{Inventory} \end{array}$$

Scaling – The process for adjusting the anticipated inventory to the design limit (disposal inventory) of the WIPP repository is called "scaling." Section 2.3.2 describes the scaling process.

$$\text{Anticipated Inventory} \xrightarrow{\text{Scaling}} \text{Disposal Inventory}$$

Disposal Inventory – The total inventory defined for WIPP emplacement (after scaling) to be used for SP and PA calculations is the "disposal inventory."

1.3.2 Waste Matrix Code Terminology

Waste Matrix Code (WMC) – The WMC is a DOE-developed coding system for organizing waste streams by their physical and chemical properties. A WMC is assigned to each waste stream by the DOE TRU waste generator/storage site. The WMC for each waste stream can be found in the Mixed Waste Inventory Report (MWIR) (DOE, 1994a). This coding system allows waste streams within the DOE TRU waste system that have similar physical and chemical waste form properties to be categorized together. WMCs also have been called "waste treatability codes" in other DOE documents. Appendix C contains the DOE guidance document used to help categorize individual waste streams. An example of a WMC for "heterogeneous waste" would be 5400.

Waste Matrix Code Group (WMCG) – A WMCG consists of a series of WMCs that for SP or PA purposes have similar physical and chemical properties. An example of combining WMCs

is the following three WMCs, which either contain particulates or are cemented particulate waste:

- WMC 3100 (inorganic process residues)
- WMC 3110 (inorganic particulates)
- WMC 3150 (solidified process residues)

Because of the restriction on particulate wastes in the *TRU Waste Acceptance Criteria, (WAC) for the Waste Isolation Pilot Plant*, Revision 4.0 (DOE, 1991), all particulate waste will usually be solidified prior to shipment to WIPP. Therefore, all three of these WMCs would be the same basic waste form when emplaced in WIPP and have similar physical and chemical properties. Table 1-2 presents all anticipated WMCs for TRU waste and indicates in which WMCG each WMC occurs for the WTWBIR. There are 11 WMCGs used in this WTWBIR. The last two rows in Table 1-2 group WMCs that will not be acceptable to WIPP unless characterized and/or processed using a yet-to-be-developed treatment technology. The combined WMCG for this example is:

Solidified Inorganic Waste

1.3.3 Waste Profile Terminology

Waste Stream Profile – This is a description of a CH-TRU or RH-TRU waste stream destined for shipment to and disposal in WIPP, if authorized under permits and certifications by appropriate regulatory agencies for disposal in the WIPP repository. The waste stream profile is presented in tabular format and is intended to provide a summary of important information about a particular waste stream. Examples of information included in a waste stream profile are:

- Currently and previously used identification codes, including the DOE TRU waste site identification;
- Assigned WMC;
- Volumes of waste currently in retrievable storage and waste projected to be generated: estimated minimum, average, and maximum weights of waste material parameters per cubic meter of waste volume (e.g., iron-based metals/alloys, aluminum-based metals/alloys, cellulose, etc.);
- Whether the waste is CH-TRU or RH-TRU; and
- Hazardous waste codes (EPA codes) as assigned by the DOE TRU waste generator/storage sites for the RCRA-regulated portion of the waste stream.

Figure 1-2 provides an example of a blank waste stream profile form. The methodology and assumptions for developing waste stream profiles are provided in Chapter 3 and printouts of waste stream profiles are provided in Appendix E.

Site-Specific Waste Profile – This represents a WMCG at a particular DOE TRU waste generator/storage site. That is, one or more waste stream profiles, at a particular DOE TRU waste site, that have been placed in the same WMCG are summarized in the site-specific waste profile. Examples of information included in a site-specific waste profile are:

- DOE TRU waste generator/storage site identification;

| | |
|----------------------------|---|
| Inorganics | Iron-Based Metals/Alloys Aluminum-Based Metals/Alloys Other Metals Other Materials |
| Organics | Celulosics Rubber Plastics |
| Solidified | Organic Matrix Inorganic Matrix |
| Soils | Soil |
| Packaging Materials | Steel Plastic |

TABLE 1-2. WASTE MATRIX CODE GROUP NAMES

| Waste Matrix Code Group | Waste Matrix Codes |
|--|--|
| Solidified Inorganic Waste | 1000 ¹ , 1100 ¹ , 1110 ¹ , 1120 ¹ , 1130 ¹ , 1140 ¹ , 1190 ¹ , 1200 ¹ , 1210 ¹ , 1220 ¹ , 1230 ¹ , 1240 ¹ , 1290 ¹ , 3000 ² , 3100, 3110 ³ , 3111 ³ , 3112 ³ , 3113, 3115 ³ , 3116 ³ , 3119 ³ , 3120, 3121, 3122, 3123, 3124, 3125, 3129, 3130, 3131 ³ , 3132 ¹ , 3139 ^{1 or 3} , 3150, 3190, 3900 ² , 6100 ⁴ , 6120 ⁵ , 6130 ⁶ , 6140 ⁵ , 6190 ⁴ , 6200 ⁷ , 6210 ⁸ , 6230 ⁸ , 6290 ⁷ , 7300 ³ , 9100 ² , 9200 ² |
| Salt Waste | 3000 ² , 3140, 3141, 3142, 3143, 3149, 3900 ² |
| Solidified Organic Waste | 2000 ¹ , 2100 ¹ , 2110 ¹ , 2120 ¹ , 2190 ¹ , 2200 ¹ , 2210 ¹ , 2220 ¹ , 2290 ¹ , 2900 ¹ , 3000 ² , 3114, 3200, 3210, 3211, 3212, 3213, 3219, 3220, 3221, 3222, 3223, 3229, 3230, 3290, 3900 ² , 6100 ⁴ , 6110 ⁵ , 6190 ⁴ , 6200 ⁷ , 6290 ⁷ , 9100 ² , 9200 ² |
| Soil | 4000, 4100, 4200, 4900 |
| Unspecified Metal Waste (Metal Waste Other Than Lead and/or Cadmium) | 5000 ⁹ , 5100, 5110, 5190, 6200 ⁷ , 6220 ⁸ , 7000 ¹⁰ , 7490, 9300 ¹⁰ |
| Lead/Cadmium Metal Waste | 5000 ⁹ , 5120, 5130, 6200 ⁷ , 6220 ⁸ , 7000 ¹⁰ , 7200, 7210, 7220, 7400 ¹¹ , 7410 ¹¹ , 7420 ¹¹ , 9300 ¹⁰ |
| Inorganic Nonmetal Waste | 5000 ⁹ , 5200, 5210, 5220, 5230, 5240, 5290 |
| Combustible Waste | 5000 ⁹ , 5300, 5310, 5311, 5312, 5313, 5319, 5320, 5330, 5390 |
| Graphite Waste | 5000 ⁹ , 5340 |
| Heterogeneous Waste | 5000 ⁹ , 5400, 5420, 5430, 5440, 5450, 5490, 6200 ⁷ , 6220 ⁸ , 6290 ⁷ |
| Filter Waste | 5000 ⁹ , 5410 |
| Excluded Waste Streams ¹² | 5250, 5350, 6300, 6400, 7100 |
| Unknown Waste ¹³ | 8000, 8100, 8200, 8900 |

TABLE 1-2. WASTE MATRIX CODE GROUP NAMES (CONTINUED)

¹ Liquid waste streams are assumed to be solidified prior to sending to WIPP. A volume conversion of 2.5:1 is assumed for solidification.

² WMCs 3000, 3900, 9100, and 9200 are placed in "solidified inorganic waste," "salt waste," or "solidified organic waste," depending on the information provided in the MWIR.

³ Particulate waste streams are assumed to be solidified prior to sending to WIPP. A volume conversion of 2.5:1 is assumed for solidifying particulate waste.

⁴ WMCs 6100 and 6190 are placed in "solidified organic waste," or "solidified inorganic waste," depending on the information provided in MWIR. Volume conversion is described in footnotes 5 and 6.

⁵ Liquid lab pack waste is assumed to be solidified prior to sending to WIPP. It is assumed that the packing material in lab packs will be low-level waste when the liquid containers are removed. A volume conversion of 2.5:1 is assumed for solidification.

⁶ Solid lab packs are assumed to be solidified prior to sending to WIPP. It is assumed that the packing material in lab packs will be low-level waste when solidifying. Because lab packs have a 3:1 ratio of waste to absorbent material, it is assumed that when the chemicals are removed from the drum and solidified, there will not be a volume increase.

⁷ WMCs 6200 and 6290 are placed in "solidified inorganic waste," "solidified inorganic waste," or "heterogeneous waste" if the waste stream must be solidified. They are placed in "unspecified metal waste," or "lead/cadmium metal waste" if they are primarily nonreactive metal contaminated with reactive metal. Reactive waste streams must be treated prior to shipment to WIPP.

⁸ Waste stream is assumed to be treated prior to shipment to WIPP. Volume change is dependent of the waste stream and treatment.

⁹ WMC 5000 is placed in "unspecified metal waste," "lead/cadmium metal waste," "inorganic nonmetal waste," "combustible waste," "graphite waste," "heterogeneous waste," or "filter waste," depending on the information in MWIR.

¹⁰ WMC 7000 and 9300 are placed in "unspecified metal waste" or "lead/cadmium metal waste," depending on the information in MWIR.

¹¹ WMCs 7400, 7410, 7420, and 7490 are assumed to be drained of liquid and contain only metal waste.

¹² These waste streams are excluded from disposal in WIPP at this time.

¹³ If adequate information is provided in MWIR, these WMCs are changed. If there is not enough information in MWIR, these waste streams remain as "unknown" and are excluded from disposal in WIPP until characterized.

- The WMCG that the profile represents;
- Listing of the waste streams (represented by waste stream profiles at the site) that are included in the site-specific waste profile, including the waste stream identification and volumes of stored and currently projected waste; and
- Summary of minimum, volume weighted average, and maximum weights of waste material parameters per cubic meter of waste volume (e.g., iron-based metals/alloys, aluminum-based metals/alloys, cellulose, etc.).

Figure 1-3 provides an example of a blank site-specific waste profile form. The methodology and assumptions for developing site-specific waste profiles are provided in Chapter 4 and printouts of site-specific waste profiles are provided in Appendix F.

WIPP Waste Profile – The WIPP waste profile represents a summary of TRU waste at all DOE TRU waste generator/storage sites that have an identical WMCG. Examples of information included in a WIPP waste profile are:

- Profile name;
- The WMCG that the profile represents;
- Listing of the DOE TRU waste sites (represented by the same WMCG) that are included in the WIPP waste profile, including the name of the DOE TRU waste site and volumes of stored and currently projected waste for each site for the particular WMCG represented; and
- Summary of minimum, volume weighted average, and maximum weights of waste material parameters per cubic meter of waste volume (e.g., iron-based metals/alloys, aluminum-based metals/alloys, cellulose, etc.).

Figure 1-4 provides an example of a blank WIPP waste profile form. The methodology and assumptions for developing WIPP waste profiles are provided in Chapter 5.

1.3.4 Database Terminology

Mixed Waste Inventory Report (MWIR) – The MWIR refers to the latest release of information from the MWIR database that supports requirements under the Federal Facilities Compliance Act (FFCA) of 1992 (Public Law 102-386). The latest version of the MWIR documentation/files is *Distribute [Distribution] of Phase II Mixed Waste Inventory Report Data*, dated May 17, 1994 (DOE, 1994a). This information replaces the MWIR Phase I release (DOE, 1994c).

Integrated Data Base (IDB) – The IDB refers to the latest version of the *Integrated Data Base for 1993: U.S. Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics* (DOE, 1994b).

Nonradionuclide Inventory Database (NID) – The NID is the database of nonradionuclide constituents in the TRU inventory that was originally developed by International Technology Corporation (IT) during 1988/1989 in support of the SNL/NM PA effort. A summary of the database was transmitted to SNL/NM in a letter report dated May 1989 (WIPP PA, 1991). A

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES

30-Jun-94

| <u>WASTE PARAMETERS FOR Heterogeneous Waste</u> | | | |
|---|------------------------------------|-----------------------|----------------------------------|
| <u>WASTE STREAM ID</u> | <u>RETRIEVABLY STORED (m3)</u> | <u>PROJECTED (m3)</u> | <u>TOTAL PER STREAM (m3)</u> |

| <u>Material Parameters (kg/m3)</u> | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|------------------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | | |
| | Plastic | | | |

Figure 1-3. Blank Site-Specific Waste Profile Form

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|-------------|----------------------|----------------------|------------------------------|
|-------------|----------------------|----------------------|------------------------------|

CH TOTALS:

| <u>Material Parameters (kg/m3)</u> | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|------------------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | | |
| | Plastic | | | |

Figure 1-4. Blank WIPP Waste Profile Form

copy of the NID waste stream information used in the WTWBIR is included in Appendix D.

In cases where additional information/process knowledge was used that is not contained in the three databases just mentioned, the source of the information will be included in the text.

1.3.5 Other Terminology

Waste Material Parameter – This is a waste material that occurs in TRU waste that is an input parameter into one or more current SP or PA models, an SP or PA model under development, a potential future model, or is required to adequately describe the waste form (see Section 3.3.1). The 10 waste material parameters and packaging materials that are defined and included in the WTWBIR are:

- Inorganics
 - Iron-based metals/alloys
 - Aluminum-based metals/alloys
 - Other metals
 - Other inorganic materials
- Organics
 - Cellulosics
 - Rubber
 - Plastics
- Solidified Materials
 - Inorganic matrix
 - Organic matrix
- Soils
- Packaging Materials
 - Steel
 - Plastic or lead

Definitions for these waste material parameters can be found in Chapter 6.

1.4 OBJECTIVES

The objectives of the WTWBIR are threefold:

1. **Establish a methodology for grouping wastes of similar physical and chemical composition.** A methodology for grouping wastes of similar physical and chemical properties into "waste profiles" will provide a common frame of reference for discussion of TRU waste issues with regulatory organizations.
2. **Define the anticipated disposal inventory of TRU wastes destined for WIPP.** The anticipated inventory of CH-TRU and RH-TRU wastes is defined as the sum of the existing volumes of stored and currently projected waste streams at each of the TRU waste generator/storage sites. Because the existing stored and currently projected waste streams do not contain sufficient volume (CH-TRU waste only) to fill the allowed capacity of WIPP, calculated: $6.2 \times 10^6 \text{ ft}^3$ ($\sim 1.76 \times 10^5 \text{ m}^3$) (Public Law 102-579, 1992), scaling of the CH-TRU waste anticipated inventory is necessary to attain the WIPP design limit. Additionally,

there is a high uncertainty in and a current lack of data on waste produced by decontamination and decommissioning (D&D) and environmental restoration (ER) activities. Therefore, the anticipated inventory has been scaled to the WIPP capacity (disposal inventory). The scaling of the inventory in future revisions of the WTWBIR will be derived from the best available data and assumptions.

3. **Calculate the disposal inventory in terms of waste material parameters.** Several waste material parameters (e.g., iron-based metals/alloys, rubber, plastics, etc.) have been identified as being potentially significant in relation to the performance of the WIPP repository (see Table 1-1). Calculating the WIPP disposal inventory in terms of these parameters provides input for the SP and PA calculations and sensitivity analyses needed to determine compliance with federal standards.

1.5 BASELINE INVENTORY UPDATES

The WTWBIR represents the best available TRU waste inventory information in support of the WIPP Project. It is anticipated that the WTWBIR will be updated periodically. This update cycle will be modified based on the availability of additional waste information or the data needs of the WIPP Project.

1.6 DOCUMENT ORGANIZATION

The WTWBIR is organized into chapters of text, figures, tables and supporting appendices. It flows from specific, detailed TRU waste information (provided by the TRU waste generator/storage sites) to the development and description of waste profiles and waste material parameters. The contents of remaining chapters in this document are summarized in the following:

- Chapter 2 discusses the three main databases and the methodology used to define the TRU waste disposal inventory.
- Chapter 3 describes the correlation of individual waste streams among the three databases and outlines the methodology and assumptions used to derive waste stream profiles.
- Chapter 4 describes the WMCGs used to combine waste stream profiles with similar physical and chemical properties to provide site-specific waste profiles, and provides estimations of non-mixed TRU waste volumes derived from the waste stream profiles identified in Chapter 3.
- Chapter 5 discusses the methodology for "rolling up" the site-specific waste profiles into WIPP waste profiles. Total weights per volume of waste material parameters are provided for each of the WIPP waste profiles. Radionuclide totals in curies are provided from site-specific data.
- Chapter 6 rolls up the waste material parameter information assigned at the waste stream profile level in Chapter 3 to obtain parameter totals. These totals are presented as parameter weights per volume.

- Chapter 7 lists references cited in the WTWBIR.
- Several appendices also are provided to either present more detailed waste inventory information or to describe the methodology in more detail. The appendices are provided in Book 2 of this WTWBIR.

CHAPTER 2

2. TRU WASTE DISPOSAL INVENTORY

2.1 INTRODUCTION

The TRU waste disposal inventory is derived from existing information on waste, which has been provided by the DOE TRU waste generator/storage sites and is predominately based on process knowledge. This chapter is designed to assist the reader by describing the existing waste information used to derive the inventory and developing the methodology used to correlate and combine the existing data into a WIPP disposal inventory.

2.2 SOURCES OF TRU WASTE INFORMATION

Several sources of information have been used to compile the WTWBIR. The three primary databases used are: (1) the MWIR (DOE, 1994a) (see Appendix H), (2) the IDB (DOE, 1994b), and (3) the NID (summarized in Appendix D). Although the bulk of the information used to compile the inventory was extracted from these three databases, several other resources also were used. These are the *Transuranic Package Transporter-II (TRUPACT-II) Content Codes* (TRUCON) (DOE, 1992), the *No-Migration Variance Petition* (NMVP) (DOE, 1990), and the draft *RCRA Part B Permit Application* (DOE, 1993a). These sources are discussed further in the following sections.

2.2.1 Mixed Waste Inventory Report

The FFCA of 1992 (Public Law 102-386, 1992; Section 105) required that the DOE, within 180 days of enactment of the FFCA, submit to the EPA Administrator and the governor of each state in which the DOE stores or generates mixed wastes a report that contains:

- National inventory report of all mixed wastes, regardless of the time they were generated, on a state-by-state basis and
- National inventory of mixed waste treatment capacities and technologies.

The FFCA also stipulated specific reporting requirements for each of these inventories. The DOE submitted the six-volume set entitled: *U.S. Department of Energy Interim Mixed Waste Inventory Report: Waste Streams, Treatment Capacities and Technologies*, DOE/NBM-1100, dated April 1993 (DOE, 1993b), to fulfill these requirements. Since issuance of the "interim" report, DOE has requested additional information from the DOE TRU waste generator/storage sites and published two updated reports entitled:

- *Release of Phase I Mixed Waste Inventory Report Data*, dated April 1, 1994 (DOE, 1994c), which includes a data diskette (Version .97B) and the draft *Mixed Waste Inventory Report Data Base System User's Guide*.
- *Distribute [Distribution] of the Phase II Mixed Waste Inventory Report Data*, dated May 17, 1994 (DOE, 1994a), which includes a data diskette (Version 1.00) and the draft *User's Guide for National Data Base System for the Final Mixed Waste Inventory Report* (May 1994).

The waste-stream specific information contained in the Phase II MWIR report is the basis for defining waste streams and building a CH-TRU and RH-TRU waste disposal inventory for

WIPP. The Phase II MWIR report has the following information about each mixed TRU waste stream by generator/storage site:

- Physical and chemical description,
- Retrievably stored and projected inventory volumes (in cubic meters),
- Source of the waste stream (including process descriptions),
- Toxic Substances Control Act (TSCA) constituents,
- Hazardous (EPA) waste codes,
- Radionuclide characterization data (generally qualitative), and
- WMCs for treatability, developed by the DOE to group waste streams with similar physical and chemical properties (see Appendix C).

Although the Phase II MWIR contains fields for all the information listed here, some fields are left blank or limited information is provided by the sites. Volumes, RCRA constituents, and WMCs are provided for each waste stream reported. Generally, the TRU waste generator/storage sites provide some information in the other fields, but its completeness ranges from very detailed to extremely sparse. Source information, TSCA constituents, and radionuclide characterization fields often contain incomplete information or are left blank.

The Phase II MWIR (DOE, 1994a) database is used for this revision of the WTWBIR for mixed TRU waste streams. Idaho National Engineering Laboratory (INEL) non-mixed TRU waste stream information from the Phase I MWIR (DOE, 1994c) is used to define non-mixed waste streams for TRU waste at INEL.

2.2.2 Nonradionuclide Inventory Database

The NID was developed in 1988/1989 by IT for SNL/NM in support of initial PA calculations. This database defines each waste stream that was planned for WIPP disposal in 1989, on which sufficient information existed about the waste materials. Most waste streams in the NID also are described in detail in the TRUCON document (DOE, 1992). The NID contains estimated numerical information (minimum, maximum, and average weights), based on process knowledge and limited visual examination (a qualitative technique that involves human judgment) on many different types of waste materials for each waste stream included in the database.

The waste material parameters listed in Section 1.3.5 occur in the NID and are the emphasis of the waste stream profile. Although these waste material parameters are deemed important for SP and PA model evaluations, their effect on repository performance may prove to be insignificant as determined by sensitivity analyses.

The NID information was summarized in 1989 for inclusion in the PA calculations (WIPP PA, 1991). Most of the information (except that for the waste material parameters) has been superseded by the MWIR database. The waste material parameter information used to define the WTWBIR is presented in Appendix D.

2.2.3 Integrated Data Base

In the IDB, radionuclide inventory is reported at the top level only (at the TRU waste site level). The IDB is published by Oak Ridge National Laboratory (ORNL) for the DOE. The ORNL assembles radioactive waste inventories provided by DOE TRU waste generator/storage sites. The IDB contains site inventory estimates for retrievably stored and currently projected waste (i.e., waste projections are made for 1993 until the year 2020). This database does not report by waste stream, but rather, by the total inventory at each DOE site. The IDB also contains the radionuclide isotopic distribution for the waste generated/stored at each site. Because consistent reporting is not available at the waste stream level in the MWIR, the radionuclide information in the IDB is the basis for the WTWBIR inventory for radionuclides.

2.2.4 Other Sources of TRU Waste Information

The three main databases described here in Section 2.2.1, MWIR (DOE, 1994a); Section 2.2.2, IDB (DOE, 1994b); and Section 2.2.3, NID (WIPP PA, 1991), represent the bulk of the data used to build the WIPP disposal inventory. Table 2-1 lists the information that was used from each database to compose the waste stream profiles for each TRU waste stream in the MWIR. In addition to the database records, several other resources have been used. These include:

- TRUCON (DOE, 1992) – Waste streams that are included in TRUCON have been indicated by recording the designation in the waste stream profile for each MWIR waste stream (see Appendix E).
- NMVP (DOE, 1990) – Waste streams that are covered by the NMVP have been indicated by recording the designation in the waste stream profile for each MWIR waste stream (see Appendix E).
- RCRA Part B Permit Application (DOE, 1993a) – Waste streams across the DOE TRU system have been summarized in the WIPP RCRA Part B Permit Application by general categories. The name of these general categories has been included on the waste stream profile for each MWIR waste stream (see Appendix E).

2.3 METHODOLOGY FOR DEVELOPMENT OF DISPOSAL INVENTORY

Development of the WIPP TRU waste disposal inventory is accomplished by a series of steps starting with the individual waste streams identified in the MWIR (DOE, 1994a). These waste streams are grouped together, based on similar physical and chemical properties, into common "waste profiles," which should facilitate discussions concerning the disposal waste inventory with regulatory agencies and stakeholders. The waste profiles also contain information on waste material parameters that could affect the performance of the WIPP repository and that, therefore, may be direct inputs to SP and PA models. A more detailed explanation of these processes is found in the following sections.

TABLE 2-1. SOURCES OF INFORMATION FOR WASTE STREAM PROFILES

| Mixed Waste Inventory Report ¹ | Nonradionuclide Inventory Database ² | Integrated Data Base ³ |
|---|--|---|
| Definition of Individual Waste Streams, Waste Stream IDs, and Item Description Codes (IDCs) | Waste Material Parameter Information: Minimum, Average, and Maximum Weight Estimates/Unit Volume | Volumes of Total TRU Waste: Stored and Projected ⁴ |
| Field Office | | |
| RH/CH | | |
| Waste Stream Name, Waste Description | | |
| Waste Matrix Code | | |
| Volumes of Mixed TRU Waste: ⁴ Stored and Projected | | |
| Hazardous Waste Codes (EPA Codes) | | |

¹ Phase II MWIR (DOE, 1994a).

² A summary of the database output is provided as Appendix D.

³ Current version is Revision 9, published March 1994.

⁴ For INEL, the Phase I MWIR also contains non-mixed TRU waste volumes.

2.3.1 Estimation of Anticipated Inventory

The anticipated inventory is the sum of the stored and currently projected wastes including the non-mixed waste that is **not** included in the MWIR (DOE, 1994a). The methodology for deriving the anticipated inventory is as follows:

- Approximately 260 individual TRU waste streams are defined in the Phase II MWIR (DOE, 1994a). Each of these waste streams is identified in the WTWBIR as a waste stream profile (see Appendix E). These waste stream profiles were developed using information from the sources listed in Section 2.2; these profiles are the lowest tier of information in the WTWBIR. Five TRU waste streams are used throughout this report to illustrate the methodology for this process.
- Each waste stream in the MWIR has been assigned a WMC by the TRU waste generator/storage site that defines the general physical and chemical properties of the waste. The WMC is located in the upper portion of each waste stream profile. The assignment of the WMC is based on DOE guidance, which can be found in Appendix C.
- Waste streams at each TRU waste generator/storage site with similar WMCs can be grouped together into a site-specific waste profile. The methodology for grouping waste streams is shown in Figure 2-1. The grouping of individual waste stream profiles into a site-specific waste profile is based on the similar physical and chemical properties of the waste streams and how that information is used in the SP and PA models. In the

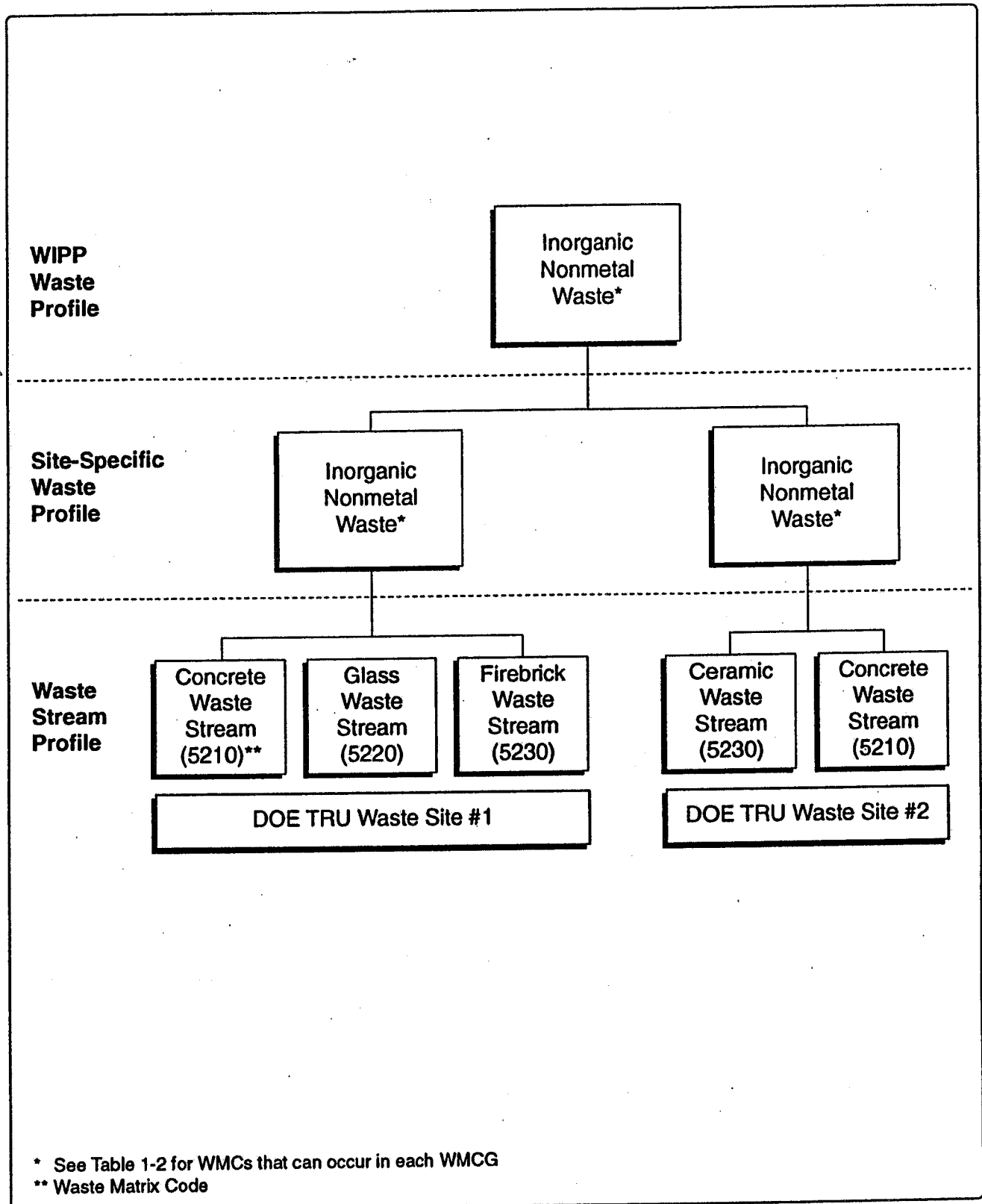


Figure 2-1. Schematic of Waste Stream Profile Methodology

example in Figure 2-1, due to their similar mechanical properties, concrete waste, glass waste, firebrick waste, and ceramic waste mainly influence the estimation of porosity and permeability in the SP and PA calculations. Therefore, the three waste streams at DOE TRU Waste Site #1 and the two at DOE TRU Waste Site #2 can be grouped together at each site based on similar physical and chemical properties and placed into the site-specific waste profile "inorganic nonmetal waste," with the WMCG defined in Table 1-2.

A more detailed description of the methodology for grouping waste stream profiles into site-specific waste profiles is presented in Section 4.3 and is illustrated with examples of five actual TRU waste streams. There are a maximum of 11 possible CH-TRU and RH-TRU site-specific waste profiles at any generator/storage site; however, most sites have fewer profiles due to differences in waste segregation practices. All the site-specific waste profiles for TRU waste are provided in Appendix F.

- Site-specific waste profiles from different waste generator/storage sites that contain the same WMCG (e.g., inorganic nonmetal waste for the example in Figure 2-1) can be combined together into a WIPP waste profile similar to that presented in Figure 2-1. As with site-specific waste profiles, there can only be a maximum of 11 possible WIPP waste profiles for CH-TRU or RH-TRU waste.
- Definition of the anticipated WIPP inventory is based on summing volumes of waste from each DOE TRU waste generator/storage site by site-specific waste profiles to synthesize the overall WIPP waste profiles. In the example in Figure 2-1, the inventories of inorganic nonmetal waste for Site #1 and Site #2 are added together to define a WIPP waste profile. To define the anticipated total WIPP inventory for inorganic nonmetal waste, all site-specific waste profiles for this waste category are combined to determine the WIPP waste profile for inorganic nonmetal waste.
- The anticipated inventory of TRU wastes for disposal at WIPP is determined from stored and currently projected waste streams as identified in the MWIR (DOE, 1994a) and/or the IDB (DOE, 1994b). The MWIR reports only volumes of mixed TRU waste. To estimate the volume of non-mixed TRU waste, the MWIR volumes by TRU waste site were subtracted from the 1993 IDB total volumes. The resultant total, which was always positive, was assumed to be non-mixed TRU waste.

In the Phase I MWIR (DOE, 1994c), INEL reported non-mixed TRU waste streams. These waste streams and their associated volumes have been used instead of the extrapolation of non-mixed TRU waste from the difference in volume of the MWIR and IDB.

Because the non-mixed TRU waste volumes are derived by the difference between the IDB and the MWIR, there are no WMCs associated with these volumes. Generally, mixed TRU and non-mixed TRU waste streams have similar physical and chemical properties. Based on this assumption, the non-mixed TRU waste was proportionally distributed among the predominant WMCs for each site using the combined stored and projected volumes. Therefore, the volumes reported in the site-specific waste profiles include both mixed and non-mixed TRU wastes. Appendix F provides a percentage breakout of mixed TRU and non-mixed TRU waste by site and WMCGs.

2.3.2 Estimation of Scaling Factor

Because the existing stored and currently projected waste streams, including non-mixed TRU waste, do not contain sufficient volume to fill the allowed capacity of WIPP, $6.2 \times 10^6 \text{ ft}^3$ ($\sim 1.76 \times 10^5 \text{ m}^3$) (Public Law 102-579, 1992), scaling of the CH-TRU inventory is necessary to attain the WIPP capacity. The scaling is accomplished by:

- The anticipated inventory (as defined in Section 1.3.1) consists of 11 overall CH-TRU and RH-TRU WIPP waste profiles based on the physical and chemical properties of the waste streams. The sum of the anticipated inventory is subtracted from the allowable WIPP inventory ($1.76 \times 10^5 \text{ m}^3$) and divided by the anticipated inventory, then added with 1:

$$\frac{1.8\text{E} + 05 \text{ m}^3 - \text{anticipated inventory}}{\text{anticipated inventory}} + 1 = \text{scaling factor}$$

The scaling of the inventory, in future revisions of the WTWBIR, will include volumes of waste anticipated from D&D and ER activities as these estimates are made available.

2.3.3 Estimation of Disposal Inventory

The disposal inventory is the total inventory to be used in SP and PA calculations. To calculate the disposal inventory by WMCG, the anticipated inventory is multiplied by the scaling factor for each WMCG and summed together. See Section 5.3 for further details.

2.3.4 Estimation of Waste Material Parameters

Some waste materials that exist in TRU waste may degrade, to some extent, over the 10,000-year period for performance modeling (WIPP PA, 1993). Some waste may produce gas by either chemical, microbial, or radiolytic degradation processes. The WIPP SP and PA models will evaluate the impacts of these processes on repository performance. The waste material parameters that are direct inputs into the SP process and PA models or potential models being considered or developed have been included in the WTWBIR and are documented in Section 6.2. These parameters will be evaluated in the SP process and PA modeling to determine the sensitivity of each parameter to repository performance.

Each TRU waste stream identified in the MWIR (DOE, 1994a) was reviewed. An example of a Phase II MWIR printout can be found in Appendix H. The item description codes (IDCs) and general waste information in the MWIR were compared with the NID (see Appendix D). The comparison of the MWIR and NID information on a waste stream basis resulted in one of two scenarios:

1. The MWIR waste stream correlates directly with NID waste stream.
2. The MWIR waste stream does not correlate directly with NID waste stream.

If a direct match was made between a waste stream in the MWIR and a waste stream in the NID (i.e., both had the same IDC), the waste parameter information from the NID was used in the waste stream profile for the MWIR waste stream. This information included the minimum, average, and maximum quantities of waste material parameters reported within the waste stream. If there was not a direct match, a comparison of the general waste information

between the MWIR and the NID was used to assign a waste material parameter distribution from another waste stream in the NID to the one under consideration in the MWIR to produce the waste stream profile. A more detailed explanation of the methodology used for assignment of waste material parameter information is provided in Section 3.3 and Appendix J.

CHAPTER 3

3. WASTE STREAM PROFILE METHODOLOGY

3.1 INTRODUCTION

The lowest tier of information in the WTWBIR is the waste stream profile, which documents specific information for each separate waste stream identified in the MWIR at each DOE TRU waste generator/storage site. In order to develop a waste characterization package for each waste stream at each site, it was necessary to correlate the information between the MWIR, NID, and IDB. Because these databases were generated at different times to meet different requirements, the nomenclature, waste description codes, waste groupings, and waste streams can be different in each database.

3.2 WASTE STREAM PROFILE DESCRIPTION

Each DOE waste stream was reviewed and, using the MWIR (DOE, 1994a) waste streams as the basis, those which were identified as acceptable for disposal under the WIPP WAC (DOE, 1991) were developed into waste stream profiles. Figure 3-1 provides an example TRU waste stream profile for a waste stream at INEL. In addition to presenting the quantity of waste material parameters in each DOE waste stream, the waste stream profile also provides a cross-reference table (top of the waste stream profile form) to list the different nomenclature used in previously generated DOE documents to identify the waste stream. Appendix K provides a cross correlation table for an MWIR waste stream with the NMVP, the draft *RCRA Part B Permit Application*, and the TRUCON. Table 3-1 lists the fields utilized on the waste stream profile, the sources of the information, and a short explanation of the data located in a particular field. A complete set of the waste stream profiles is provided in Appendix E.

In development of the MWIR, DOE directed the TRU waste generating/storage site to append their hazardous waste codes (EPA codes) to further define the waste in order to develop an appropriate treatment technology. These code designations and descriptions are presented in Appendix M. For example, D003 is defined by EPA as reactive. DOE further defined this code as D003A (reactive cyanide), D003B (reactive sulfides), D003C (explosives), D003D (water reactives), and D003E (other reactives). Other EPA codes are further defined as listed in Appendix M.

There are three waste volumes reported in the waste stream profiles: retrievable, projected, and total. On some waste stream profiles there can be a rounding error. If retrievable plus projected do not equal the total, it is due to a rounding error.

3.3 WASTE STREAM PROFILE METHODOLOGY AND ASSUMPTIONS

3.3.1 Assignment of Waste Material Parameters to MWIR Waste Stream

Each waste stream described in the MWIR (DOE, 1994a) is evaluated to determine the physical and chemical properties of the waste. This information is then compared with the NID (Appendix D). As a result of this comparison, two scenarios are possible (see Appendix J):

1. **MWIR Waste Stream Correlates Directly with NID Waste Stream** – If the MWIR waste stream has a direct correlation with a NID waste stream (i.e., they both have the same

WASTE STREAM PROFILES (CONTINUED)

29-Jun-94

| | | | | | |
|--------------------------------|--|-------------------------|--------------|--------------|-------|
| DATABASE WS ID | IN-W169 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): DRY PAPER AND RAGS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 216 | | | | |
| WASTE MATRIX CODE - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES | | |
| - Group | Heterogeneous Waste | TRUCON | ID 216 | | |

IDC's
 Site ID-EGG-114T-330
 Assigned RF-831

WASTE VOLUMES (cu. m.)

| | |
|--------------|-------------|
| Retrievable | 5775 |
| Projected | 0 |
| Total | 5775 |

EPA CODE(s)

| |
|-------|
| F001 |
| D008A |
| D008C |
| D022 |
| D029 |
| F001 |
| F001 |
| F003 |
| F001 |
| F003 |
| F001 |
| F005 |
| F005A |
| F002 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 3-1. Example of TRU Waste Stream Profile from Idaho National Engineering Laboratory

IDC), the waste parameter information from the NID is placed on the waste stream profile for that particular waste stream.

2. **MWIR Waste Stream Does Not Correlate with NID Waste Stream** – If the MWIR waste stream does not have a direct correlation with a NID waste stream (i.e., IDCs do not match), the Waste Stream Description (See Section 2.2 in Appendix H) and the Specific Matrix Constituents (See Section 4.2 in Appendix H) are examined to determine the physical and chemical properties of the waste stream. Based on that information, a NID waste stream is found that closely approximates the MWIR waste stream description. The waste material parameter data from the similar NID waste stream are assigned to the particular waste stream profile.

3.3.2 Assignment of WMC to MWIR Waste Stream

The DOE TRU waste generator/storage sites have assigned an overall WMC to each waste stream based on the current form of the waste (see Section 4.1 in Appendix H). The WIPP Project has developed the WIPP WAC (DOE, 1991) for any waste packages to be shipped to WIPP to ensure the safe handling and emplacement in the WIPP. In general, the waste forms acceptable for emplacement in WIPP are described in Table 1-2. For the purpose of this document, waste streams that are in a physical or chemical form that is unacceptable for WIPP disposal are assumed to be processed to meet WIPP WAC. To accomplish the grouping of WMCs, the waste streams were evaluated as follows:

- Documented physical and chemical properties were revised as described in the MWIR database.
- If the waste stream documentation was sufficient, a treatment was assumed for the waste stream (e.g., solidification of inorganic liquids [1000 series] or organic liquids [2000 series]) and grouped with similar WMCs. Other waste streams in the 6000, 7000, 8000, and 9000 series have also been grouped with the 3000, 4000, or 5000 series using similar methodology to address any waste characteristics that would be unacceptable for emplacement in WIPP. Some sites have reported "unknown" (e.g., WMC 8900) for some waste streams. In a few cases, WMCs have been assigned through expert judgement to the waste stream when sufficient information has been included in the waste stream description. Any waste streams that have been changed from "unknown" to another WMC have been documented on the waste stream profiles. Those waste streams that cannot be placed in a new WMC have been grouped together under the WMC 8900. The "unknown" waste streams are documented as part of the WIPP inventory, but are not used in any of the scaling of TRU waste volumes necessary to fill WIPP to its design capacity. "Unknown" wastes will have to be characterized and may require treatment prior to emplacement in WIPP.
- The TRU waste generator/storage sites have identified several waste streams that are regulated under the TSCA (i.e., containing asbestos or polychlorinated biphenyls [PCBs]). Because the concentration of the asbestos and/or PCBs is unknown, it is assumed that these waste streams cannot be accepted at WIPP under the proposed draft WIPP RCRA Part B Permit Application. These waste streams are summarized in Table 3-2 and are not included in the WTWBIR.

TABLE 3-1. SOURCES OF INFORMATION USED IN WASTE STREAM PROFILES

| INFORMATION FIELD | SOURCE OF INFORMATION | EXPLANATION |
|---|--|--|
| Data Base WS ID | MWIR Database | Unique identification number for waste stream in MWIR database |
| Handling: RH/CH | MWIR Database | Identifies whether waste stream is classified as CH or RH |
| Field Office | MWIR Database | Identifies DOE field office responsible for management of waste streams |
| WS Name | MWIR Database | Name of waste stream provided by TRU waste site |
| NMVP | NMVP, Table 2-1 | Provided as cross reference to waste streams included in the NMVP |
| WMC - Site | MWIR Database | WMC for waste stream provided by the waste generator/storage sites |
| WMC - Group | MWIR Database | Groups WMCs with similar chemical and physical characteristics |
| WIPP Part B Permit Application | WIPP draft RCRA Part B Permit Application, Waste Analysis Plan, Revision 3 | Provided as cross reference to waste streams in the WIPP draft RCRA Part B Permit Application |
| TRUCON | TRUCON | Provided as cross reference to waste streams in the TRUCON |
| Site IDC | MWIR Database | Waste stream identification at site |
| Assigned IDC | TRUCON | IDC assigned to correlate the MWIR database to the NID |
| Waste Volumes | 1993 IDB and/or MWIR Database | Provides estimates of retrievable stored and projected volumes of TRU and mixed TRU wastes, if available |
| Waste Parameters (paper, plastic, metal...) | NID | Provides weight estimates of selected waste materials in a particular waste stream |
| Hazardous Waste (EPA) Codes | MWIR Database | Documents hazardous waste codes (EPA) provided by TRU waste sites and recorded in the MWIR database |
| Notes/Specific Assumptions | Applicable Reference | Documents any waste-stream specific assumptions |

Key: WS = waste stream ID = identification

- All "particulate" wastes have been assumed to be solidified prior to shipment to WIPP.
- Rocky Flats Plant (RFP) residue wastes are included in the MWIR, and are reported at the volumes represented in *Removing Plutonium Residues from Rocky Flats Will Be Difficult and Costly*, a U.S. General Accounting Office (GAO) report to Congress (GAO, 1992). Many of these wastes will have to be repackaged or treated to meet the WIPP WAC, which will result in a volume change.

TABLE 3-2. TOXIC SUBSTANCES CONTROL ACT (TSCA) TRU WASTE

| UNIQUE WS | WASTE STREAM NAME | ASBESTOS | PCBs |
|--------------|------------------------------------|----------|------|
| IN-W208 | Composite Filters | Yes | No |
| IN-W209 | Composite Filters | Yes | No |
| IN-W210 | Asbestos Waste | Yes | No |
| IN-W211 | Composite Filters | Yes | No |
| IN-W212 | Composite Filters | Yes | No |
| IN-W213 | Composite Filters | Yes | Yes |
| IN-W309 | Absorbed Organic Liquids | Unknown | Yes |
| RF-W001 | Predominantly Metal Waste | No | Yes |
| RL-W071 | Predominantly Metal Waste | Yes | No |
| RL-W073 | Predominantly Metal Waste | No | Yes |
| RL-W076 | Predominantly Combustible Waste | No | Yes |
| RL-W084 | Organic Lab Packs | No | Yes |

CHAPTER 4

4. SITE-SPECIFIC WASTE PROFILE METHODOLOGY

4.1 INTRODUCTION

Waste streams with similar physical and chemical properties can be grouped together using WMCs. For example, the following four waste streams from INEL are identified in Figure 4-1:

- Dry paper and rags (IN-W169);
- Combustible equipment boxes (IN-W203);
- Benelex and Plexiglas (IN-W225); and
- Miscellaneous paper, metal, etc., (IN-W285).

These waste streams are all "heterogeneous waste" and can be combined into one site-specific waste profile because it is assumed that for long-term compliance purposes (i.e., SP and PA modeling inputs), all four waste streams have essentially the same physical and chemical properties. At INEL, there are additional waste streams grouped under the "heterogeneous waste" profile; but only these four have been included to simplify the example.

For the other site example identified in Figure 4-1, the combustibles waste stream profile RF-W012 is the only one that occurs in the "heterogeneous waste" classification and is, therefore, placed under that site-specific waste profile for the RFP. This methodology of grouping waste streams by WMCs is similar at each DOE TRU waste generator/storage site.

4.2 SITE-SPECIFIC WASTE PROFILE DESCRIPTION

A site-specific waste profile is developed at each of the TRU waste generator/storage sites for each of the WMCGs (listed previously in Table 1-2) that have individual waste streams at each site. These site-specific waste profiles provide a rollup of the waste material parameter and volume information found in the waste stream profiles for each site.

4.3 SITE-SPECIFIC WASTE PROFILE METHODOLOGY

The general methodology for combining waste streams at a site into WMCGs is similar to that shown in Figure 4-1. The WMCGs are then converted directly into site-specific waste profiles to be used to build the WIPP disposal inventory. An example site-specific waste profile is presented in Figure 4-2 using the IN example waste streams from Figure 4-1. Table 4-1 lists the sources of information for site-specific waste profiles. All site-specific waste profiles are provided in Appendix F.

4.3.1 Grouping of WMCs

For the purposes of this document, 11 WMCGs have been identified. The WMCGs were developed by combining waste streams with similar physical and chemical properties by using WMCs as defined in the *DOE Waste Treatability Groups Guidance* (see Appendix C) and after reviewing the individual waste stream descriptions in the MWIR. Table 1-2 (in Chapter 1) displays the WMCGs and associated WMCs.

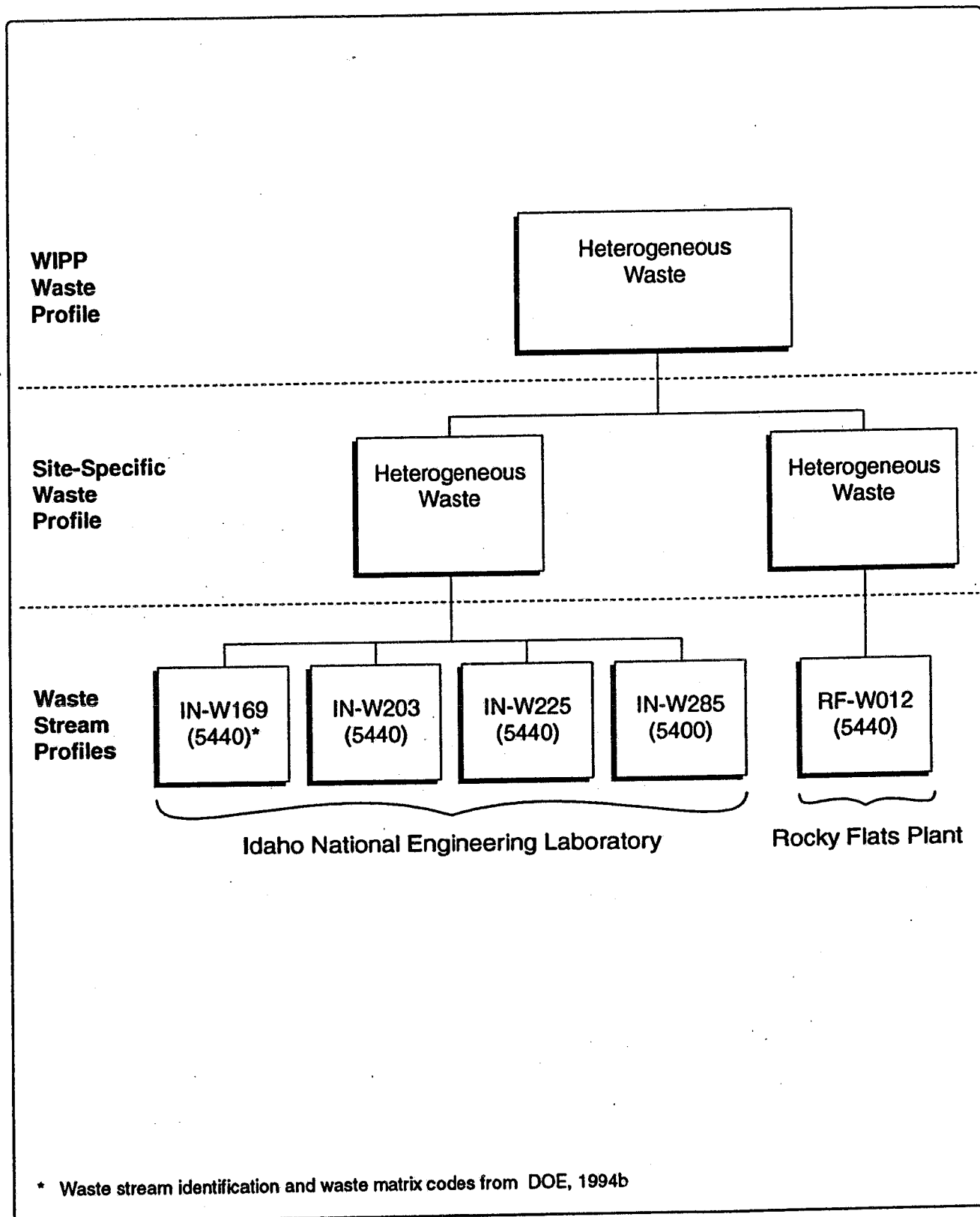


Figure 4-1. Waste Profile Methodology for Example Waste Streams

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES

30-Jun-94

| WASTE PARAMETERS FOR Heterogeneous Waste | | | |
|---|------------------------------------|-----------------------|----------------------------------|
| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
| IN-W283 | 1.06 | 0.00 | 1.06 |
| IN-W281 | 370.89 | 0.00 | 370.89 |
| IN-W278 | 13.95 | 0.00 | 13.95 |
| IN-W345 | 14.59 | 0.00 | 14.59 |
| IN-W163 | 0.85 | 0.00 | 0.85 |
| IN-W351 | 1.48 | 0.00 | 1.48 |
| IN-W334 | 5.51 | 0.00 | 5.51 |
| IN-W259 | 58.84 | 0.00 | 58.84 |
| IN-W265 | 53.15 | 0.00 | 53.15 |
| IN-W269 | 25.86 | 0.00 | 25.86 |
| IN-W160 | 5774.64 | 0.00 | 5774.64 |
| IN-W199 | 1.27 | 0.00 | 1.27 |
| IN-W306.3 | 3465.00 | 0.00 | 3465.00 |
| IN-W302 | 106.00 | 0.00 | 106.00 |
| IN-W186 | 2695.14 | 0.00 | 2695.14 |
| IN-W187 | 0.21 | 0.00 | 0.21 |
| IN-W291 | 770.09 | 0.00 | 770.09 |
| IN-W189 | 6.15 | 0.00 | 6.15 |
| IN-W172 | 165.57 | 0.00 | 165.57 |
| IN-W225 | 22.20 | 0.00 | 22.20 |
| IN-W171 | 3.59 | 0.00 | 3.59 |
| IN-W203 | 79.89 | 0.00 | 79.89 |
| IN-W204 | 1.91 | 0.00 | 1.91 |
| IN-W170 | 0.42 | 0.00 | 0.42 |
| IN-W289 | 25.36 | 0.00 | 25.36 |
| IN-W285 | 64.90 | 0.00 | 64.90 |
| IN-W329 | 1.27 | 0.00 | 1.27 |
| IN-W271 | 0.42 | 0.00 | 0.42 |
| IN-W187 | 778.34 | 0.00 | 778.34 |
| | 14508.55 | 0.00 | 14508.55 |

| Material Parameters (kg/m3) | | Max | Average | Min |
|------------------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 41.40 | 0.00 |
| | Aluminum-based Metals/Alloys | 38.22 | 0.48 | 0.00 |
| | Other Metals | 46.63 | 0.16 | 0.00 |
| | Other Inorganic Materials | 3072.12 | 5.20 | 0.00 |
| Organics | Cellulosics | 918.75 | 100.97 | 0.00 |
| | Rubber | 212.02 | 9.92 | 0.00 |
| | Plastics | 1060.10 | 43.83 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.00 | 0.00 |
| Soils | Soil | 144.23 | 0.24 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 4-2. Example of Site-Specific Waste Profile

**TABLE 4-1. SOURCES OF INFORMATION USED IN
SITE-SPECIFIC WASTE PROFILES**

| Information Field | Source of Information | Explanation |
|---------------------------|--|---|
| DOE TRU Site | MWIR Database | <p>The code for the DOE site. Codes are as follows:</p> <ul style="list-style-type: none"> AL - Ames Laboratory AE - Argonne National Laboratory - East AW - Argonne National Laboratory - West ET - Energy Technology Engineering Center IN - Idaho National Engineering Laboratory KA - Knolls Atomic Power Laboratory - Knolls Site LA - Los Alamos National Laboratory LB - Lawrence Berkeley Laboratory LL - Lawrence Livermore National Laboratory MD - Mound Plant MU - University of Missouri NT - Nevada Test Site OR - Oak Ridge National Laboratory PA - Paducah Gaseous Diffusion Plant RF - Rocky Flats Plant RL - Richland (Hanford) Site SA - Sandia National Laboratories/NM SR - Savannah River Site WV - West Valley Demonstration Project |
| WMCG | DOE Waste Treatability Groups Guidance and MWIR Database | Groups waste streams that have similar chemical and physical properties. |
| Waste Stream Volume | 1993 IDB and/or MWIR Database | Provides estimates of retrievably stored, projected, and total volumes of TRU and mixed TRU wastes by waste stream. |
| Waste Material Parameters | NID | Provides total weight estimates of selected waste materials in a particular WMCG for the entire site. |

4.3.2 Assignment of WMCGs to Site-Specific Waste Profiles

Once the waste stream(s) at a particular site have been reviewed and grouped under the appropriate WMCG(s), a site-specific waste profile is developed for each WMCG, using the name of the appropriate WMCG to identify the site-specific waste profile. Although the maximum number of site-specific waste profiles for any given TRU waste generator/storage site is 11 CH and 11 RH, most sites possess fewer.

4.3.3 Estimation of Non-mixed TRU Waste Volumes

The Phase II MWIR (DOE, 1994a) reports only volumes of mixed TRU waste, except for INEL (reported in the Phase I MWIR; DOE, 1994c). To estimate the volume of non-mixed TRU waste (except for INEL), the MWIR volumes by TRU waste site were subtracted from the 1993 IDB total volumes, which report the total TRU and mixed TRU waste volume at each site (DOE, 1994b). The resultant total, which was always positive, was assumed to be non-mixed TRU waste:

$$\text{IDB (TRU and mixed TRU waste)} - \text{MWIR (mixed TRU waste)} = \text{TRU (non-mixed TRU waste)}$$

Because the non-mixed TRU waste volumes are derived from the difference between the IDB total TRU waste volumes and the MWIR total mixed TRU waste volumes per site, there are no WMCs associated with these volumes. Generally, mixed TRU and non-mixed TRU waste streams have similar physical and chemical properties (DOE, 1990).

Based on this assumption, the following example is presented only to illustrate the methodology used at most DOE TRU waste generator/storage sites:

- At a DOE TRU waste generator/storage site, three predominant WMCGs are assumed to occur (i.e., solidified inorganic waste, solidified organic waste, and combustible waste).
- The volume of the three WMCGs is calculated by combining stored and projected volumes of all waste stream profiles under each WMCG.
- For this example, the following partitioning of mixed TRU waste volumes among the WMCGs is assumed: 40 percent solidified inorganic waste, 10 percent solidified organic waste, and 50 percent combustible waste.
- Assuming that the difference between the IDB waste volume and the combined MWIR volume is 200 m³, then the non-mixed portion of the inventory would be distributed among the three WMCGs in the same ratio. That is: 80 m³ (solidified inorganic waste), 20 m³ (solidified organic waste), and 100 m³ (combustible waste). The volumes reported in the site-specific waste profiles include the non-mixed TRU waste.

Because of the disparity in available data on the non-mixed volumes of TRU waste, notations will be made on a waste stream basis, indicating which method was used to arrive at the non-mixed volume of the TRU waste. Appendix F includes tables that define the percentages of the WMCG that is TRU and mixed TRU waste.

CHAPTER 5

5. WIPP WASTE PROFILE METHODOLOGY

5.1 INTRODUCTION

The WIPP waste profiles are the highest tier of information in the WTWBIR. Site-specific waste profiles with the same WMCGs (see Table 1-2) can be combined across the TRU waste generator/storage sites into what is defined as an overall WIPP waste profile.

5.2 WIPP WASTE PROFILE METHODOLOGY

As described in chapters 3 and 4, each waste stream from each TRU waste generator/storage site is defined in a waste stream profile, then grouped by site WMCGs into site-specific waste profiles. These site-specific waste profiles are then rolled-up into WIPP waste profiles by combining identical WMCGs from all the TRU waste generator/storage sites. For example, all site-specific waste profiles for heterogeneous waste (see Table 1-2) can be grouped together to help generate the WIPP waste profile, "heterogeneous waste." The WIPP waste profiles are presented in Figures 5-1 through 5-17 at the end of this chapter.

5.3 WIPP WASTE PROFILE ROLL-UPS

To illustrate the methodology for grouping similar site-specific waste profiles into WIPP waste profiles, the WIPP waste profile for "heterogeneous waste" (based on the five example waste streams shown in Figure 4-1) is provided in Figure 5-4. Table 5-1 lists the sources of information used for the WIPP waste profiles.

TABLE 5-1. SOURCES OF INFORMATION USED IN WIPP WASTE PROFILES

| INFORMATION FIELD | SOURCE OF INFORMATION | EXPLANATION |
|--------------------------------|--|--|
| Waste Matrix Code Group (WMCG) | DOE Waste Treatability Groups Guidance and MWIR Database | Groups waste streams that have similar chemical and physical properties |
| DOE Site Volumes | 1993 IDB and/or MWIR Database | Provides estimates of retrievably stored, projected, and total volumes of TRU and TRU mixed wastes by DOE site |
| Waste Material Parameters | NID Database | Provides weight estimates of selected waste materials in a particular WMCG for the DOE Complex |

Using volumes for all the TRU waste streams (including the mixed and non-mixed TRU waste volumes) in the WIPP TRU Waste Baseline Inventory Database, disposal inventory of TRU waste has been developed using the methodology described in this and the preceding

chapters. This inventory is presented in Table 5-2 (by WMCGs) and depicts both the anticipated and disposal inventory volumes.

The anticipated inventory volumes are the sum of the "stored" and "projected" volumes in Table 5-2. The procedure to obtain the disposal inventory is summarized below:

- The total CH-TRU "stored" and "projected" waste volumes are added together ($8.6 \times 10^4 + 4.1 \times 10^4 = 1.3 \times 10^5 \text{ m}^3$)
- The "unknown" volume of waste in Table 5-2 ($4.2 \times 10^3 \text{ m}^3$) is subtracted from the anticipated inventory because DOE does not intend to produce any "unknown" waste in the future.
- The "unknown" waste will have to be added back into the total scaled inventory because it is assumed that this waste will be characterized and then shipped to WIPP. The target design volume of CH-TRU waste beyond that identified in the MWIR is decreased by $4.2 \times 10^3 \text{ m}^3$ ($1.8 \times 10^5 - 4.2 \times 10^3 = 1.8 \times 10^5 \text{ m}^3$ [there is no significant difference due to rounding]).
- Applying a modified version of the formula given in Section 2.3:

$$\frac{\begin{array}{c} 1.8 \times 10^5 \\ \text{(modified design} \\ \text{inventory)} \end{array} - \begin{array}{c} 1.3 \times 10^5 \\ \text{(modified anticipated} \\ \text{inventory)} \end{array}}{1.3 \times 10^5 \text{ (modified anticipated inventory)}} + 1 \approx 1.4 \text{ (scaling factor)}$$

- Multiply the CH-TRU waste modified anticipated inventory volumes by the scaling factor 1.4 for all the WMCGs, except for the "unknown" waste (which results in the numbers in the fourth column [Scaled Volumes] of Table 5-2).
- Add the CH-TRU waste volumes in the fourth column (Scaled Volumes), including the "unknown" waste, to attain the disposal inventory.

The waste stream volume on a system-wide WMCG basis is increased by 40 percent to account for the difference between the anticipated inventory and the repository design limit. The RH-TRU waste volumes have not been scaled because the volume of anticipated RH-TRU waste inventory already exceeds the design capacity by 21 percent (DOE, 1990).

5.4 RADIONUCLIDE ROLL-UPS

Quantitative radionuclide information is not available on a per-waste-stream basis, as is the nonradionuclide information that is summarized in the waste stream profiles. However, quantitative radionuclide information is available as part of the annual IDB submittal (DOE, 1994b). Table 5-3 contains a summary of the total radionuclide activity (curies) for CH-TRU and RH-TRU waste from information submitted by the DOE TRU waste generator/storage sites (Column 2 of Table 5-2) in support of the data call for the 1993 IDB (DOE, 1994b).

TABLE 5-2. TRANSURANIC WASTE DISPOSAL INVENTORY FOR WIPP

| Waste Matrix Groups | Stored Volumes m ³ | Projected Volumes m ³ | Scaled Volumes m ³ |
|------------------------------|----------------------------------|-------------------------------------|----------------------------------|
| Contact-Handled Waste | | | |
| Combustible | 5.6E+03 | 3.2E+03 | 1.2E+04 |
| Filter | 2.1E+03 | 4.6E+02 | 3.6E+03 |
| Graphite | 4.9E+02 | 0.0E+00 | 6.8E+02 |
| Heterogeneous | 3.4E+04 | 1.6E+04 | 6.9E+04 |
| Inorganic Non-Metal | 1.1E+03 | 1.3E+01 | 1.6E+03 |
| Lead/Cadmium Metal Waste | 2.3E+03 | 2.0E+03 | 6.0E+03 |
| Salt Waste | 7.7E+02 | 0.0E+00 | 1.1E+03 |
| Soils | 4.6E+03 | 3.2E+03 | 1.1E+04 |
| Solidified Inorganics | 1.9E+04 | 1.5E+04 | 4.8E+04 |
| Solidified Organics | 1.3E+03 | 1.8E+02 | 2.1E+03 |
| Uncategorized Metal | 1.1E+04 | 3.5E+02 | 1.6E+04 |
| Unknown ¹ | 4.2E+03 | 2.8E+02 | 4.4E+03 |
| Total | 8.6E+04 | 4.1E+04 | 1.8E+05 |
| Remote-Handled Waste | | | |
| Filter | 2.8E+01 | 2.0E+02 | |
| Heterogeneous | 8.0E+02 | 3.6E+03 | |
| Inorganic Non-Metal | 0.0E+00 | 1.2E+03 | |
| Lead/Cadmium Metal Waste | 0.0E+00 | 8.8E-01 | |
| Solidified Inorganics | 6.2E+02 | 1.4E+03 | |
| Uncategorized Metal | 1.5E-01 | 4.8E+01 | |
| Unknown | 5.6E+02 | 4.2E+02 | |
| Total | 2.0E+03 | 7.0E+03 | |
| Grand Total | 8.8E+04 | 4.8E+04 | |

¹ The projected "unknown" waste streams are calculated non-mixed TRU waste streams as defined in section 4.3.3. There was not enough information provided in the MWIR from the TRU waste generator/storage sites to assign these streams to a WMCG.

The curie totals for CH-TRU waste have been scaled (1.4) by the same percentage as the volume numbers in Section 5.3 for CH-TRU waste. The scaling will allow SP and PA modeling of the performance of the repository, with the inventory increased to the permitted volume limits. The curie totals presented in Column 4 (for RH-TRU) and Column 3 (for CH-TRU) in Table 5-3 are intended to replace the curie totals used by SNL/NM in the latest published data on waste parameters used in PA (Table 3.3-1 in Sandia WIPP Project, 1992). A more comprehensive listing of radionuclide inventories can be found in Appendix I.

TABLE 5-3. IDB TOTALS FOR SELECTED RADIONUCLIDES, DECAYED, AND ACCUMULATED TO DECEMBER 1992

| RADIONUCLIDE | CH (REPORTED) CURIES | CH (SCALED) CURIES | RH CURIES |
|--------------|----------------------------|--------------------------|--------------|
| Am 241 | 4.13E+04 | 5.78E+04* | 8.98E+04 |
| Cf 252 | 1.09E+02 | 1.53E+02 | 1.10E+01 |
| Cs 137 | 1.98E+03 | 2.77E+03 | 2.94E+04 |
| Np 237 | 1.68E+01 | 2.35E+01 | 7.66E-01 |
| Pm 147 | 5.37E+02 | 7.52E+02 | 1.11E+03 |
| Pu 238 | 5.80E+05 | 8.12E+05 | 6.17E+04 |
| Pu 239 | 1.23E+05 | 1.72E+05 | 4.08E+04 |
| Pu 240 | 1.63E+04 | 2.28E+04 | 9.98E+03 |
| Pu 241 | 3.24E+05 | 4.54E+05 | 1.78E+05 |
| Pu 242 | 4.92E+02 | 6.89E+02 | 9.48E-01 |
| Sr 90 | 1.44E+03 | 2.02E+03 | 5.75E+04 |
| Th 232 | 1.01E-01 | 1.41E-01 | 3.33E-01 |
| U 233 | 2.14E+02 | 3.00E+02 | 1.04E+03 |
| U 235 | 9.94E-01 | 1.39E+00 | 3.67E+02 |
| U 238 | 6.08E+00 | 8.51E+00 | 2.30E+00 |

N/A = RH-TRU curie content was not scaled to fill the WIPP repository. (See Section 5.4 for details.)

* = Scaling factor is 1.4 from the volumes in Table 5-2.

ASSUMPTIONS:

1. Activities reported in 1993 are complete and accurate.
2. Equivalent Pu 239 activities.
3. Calculations to "decay" values reported by DOE sites were performed correctly and assumptions stated in 1993 IDB are valid.
4. Site reporting was done in accordance with the instructions in the 1993 IDB data call.
5. Reported values are scaled to design repository volume for CH-TRU waste only.

METHODOLOGY:

The figures presented were arrived at by summing the calculated decayed values in the 1993 IDB from data reported by DOE sites managing TRU waste in response to a formal, nationwide data call.

WIPP CONTACT HANDLED WASTE PROFILES

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WASTE MATRIX CODE GROUP Combustible Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|-------------------|----------------------|----------------------|------------------------------|
| IN | 557.0 | 0.0 | 557.0 |
| MD | 57.7 | 28.1 | 85.8 |
| RF | 287.0 | 208.6 | 495.5 |
| SR | 4747.1 | 2986.6 | 7733.7 |
| CH TOTALS: | 5648.8 | 3223.3 | 8872.0 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 4.23 | 1.10 | 0.00 |
| Organics | Cellulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-1. WIPP CH-TRU Waste Profile for Combustible Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Filter Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|-------------------|----------------------|----------------------|------------------------------|
| IN | 1424.7 | 0.0 | 1424.7 |
| RF | 693.1 | 458.5 | 1151.5 |
| CH TOTALS: | 2117.8 | 458.5 | 2576.2 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 429.82 | 429.82 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | 8.77 | 8.77 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-2. WIPP CH-TRU Waste Profile for Filter Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Graphite Waste

| | <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|-------------|----------------------|----------------------|------------------------------|
| | IN | 487.0 | 0.0 | 487.0 |
| | RF | 0.4 | 0.0 | 0.4 |
| <u>CH TOTALS:</u> | | 487.4 | 0.0 | 487.4 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 1673.08 | 115.38 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-3. WIPP CH-TRU Waste Profile for Graphite Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Heterogeneous Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|-------------------|----------------------|----------------------|------------------------------|
| IN | 14508.6 | 0.0 | 14508.6 |
| KA | 2.4 | 0.0 | 2.4 |
| LA | 2041.5 | 4677.0 | 6718.5 |
| LL | 110.5 | 809.5 | 920.0 |
| MU | 0.1 | 0.5 | 0.6 |
| NT | 612.0 | 0.0 | 612.0 |
| OR | 928.3 | 609.3 | 1537.6 |
| RF | 1493.6 | 1187.0 | 2680.5 |
| RL | 8991.7 | 3116.8 | 12108.5 |
| SR | 5022.4 | 5813.0 | 10835.4 |
| CH TOTALS: | 33711.0 | 16213.0 | 49924.0 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 4.23 | 1.10 | 0.00 |
| Organics | Cellulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-4. WIPP CH-TRU Waste Profile for Heterogeneous Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Inorganic Non-metal Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|----------------------|----------------------|------------------------------|
| IN | 927.3 | 0.0 | 927.3 |
| RF | 212.9 | 12.9 | 225.8 |
| <u>CH TOTALS:</u> | 1140.3 | 12.9 | 1153.1 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 290.75 | 290.75 | 0.00 |
| Organics | Cellulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-5. WIPP CH-TRU Waste Profile for Inorganic Nonmetal Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Lead/Cadmium Metal Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|----------------------|----------------------|------------------------------|
| AE | 0.4 | 0.7 | 1.1 |
| ET | 2.5 | 0.2 | 2.7 |
| LA | 2209.2 | 1823.8 | 4033.0 |
| LL | 1.0 | 28.0 | 29.0 |
| RF | 77.3 | 47.9 | 125.1 |
| RL | 1.8 | 55.8 | 57.6 |
| WV | 30.9 | 0.0 | 30.9 |
| <u>CH TOTALS:</u> | 2323.1 | 1956.3 | 4279.4 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-6. WIPP CH-TRU Waste Profile for Lead/Cadmium Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Salt Waste

| | <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|-------------|----------------------|----------------------|------------------------------|
| | IN | 17.6 | 0.0 | 17.6 |
| | RF | 754.3 | 0.0 | 754.3 |
| <u>CH TOTALS:</u> | | 771.9 | 0.0 | 771.9 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | 14.42 | 12.02 | 0.48 |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Inorganic Materials | 567.30 | 216.30 | 48.10 |
| | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-7. WIPP CH-TRU Waste Profile for Salt Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Soil

| | <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|-------------|----------------------|----------------------|------------------------------|
| | IN | 38.0 | 0.0 | 38.0 |
| | RL | 4598.8 | 3181.4 | 7780.2 |
| <u>CH TOTALS:</u> | | 4636.8 | 3181.4 | 7818.2 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 3072.12 | 584.13 | 0.00 |
| Organics | Cellulosics | 12.02 | 12.02 | 0.00 |
| | Rubber | | | |
| | Plastics | 12.02 | 12.02 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | 144.23 | 64.90 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-8. WIPP CH-TRU Waste Profile for Soil

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Solidified Inorganic Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|-------------------|----------------------|----------------------|------------------------------|
| AE | 21.1 | 144.4 | 165.5 |
| AL | 0.0 | 0.3 | 0.3 |
| IN | 6992.2 | 0.0 | 6992.2 |
| LA | 6274.2 | 10108.9 | 16383.1 |
| LL | 112.0 | 851.5 | 963.5 |
| MD | 86.8 | 27.9 | 114.7 |
| OR | 139.2 | 37.3 | 176.5 |
| PA | 18.8 | 0.0 | 18.8 |
| RF | 3232.6 | 1177.9 | 4410.5 |
| RL | 1989.0 | 3014.4 | 5003.4 |
| SR | 0.0 | 0.0 | 0.0 |
| WV | 19.3 | 0.1 | 19.4 |
| CH TOTALS: | 18885.3 | 15362.6 | 34247.9 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-9. WIPP CH-TRU Waste Profile for Solidified Inorganic Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Solidified Organic Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|-------------------|----------------------|----------------------|------------------------------|
| AE | 0.0 | 0.1 | 0.2 |
| IN | 1017.8 | 0.0 | 1017.8 |
| LL | 0.8 | 21.0 | 21.8 |
| RF | 124.1 | 9.5 | 133.6 |
| RL | 0.4 | 22.1 | 22.5 |
| SR | 201.5 | 124.4 | 325.9 |
| CH TOTALS: | 1344.6 | 177.1 | 1521.7 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-10. WIPP CH-TRU Waste Profile for Solidified Organic Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Unspecified Metal Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|----------------------|----------------------|------------------------------|
| AE | 4.4 | 35.7 | 40.1 |
| IN | 10677.1 | 0.0 | 10677.1 |
| LA | 15.1 | 0.0 | 15.1 |
| RF | 367.7 | 312.2 | 679.9 |
| <u>CH TOTALS:</u> | 11064.3 | 347.9 | 11412.2 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | 317.31 | 83.65 | 0.00 |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 1586.54 | 195.19 | 0.00 |
| | Other Inorganic Materials | 19.23 | 19.23 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-11. WIPP CH-TRU Waste Profile for Unspecified Metal Waste

WIPP REMOTE HANDLED WASTE PROFILES

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WASTE MATRIX CODE GROUP Filter Waste

| | <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|-------------|----------------------|----------------------|------------------------------|
| | AW | 7.1 | 0.4 | 7.5 |
| | IN | 20.4 | 204.0 | 224.4 |
| <u>RH TOTALS:</u> | | 27.5 | 204.4 | 231.9 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 429.82 | 429.82 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | 8.77 | 8.77 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Figure 5-12. WIPP RH-TRU Waste Profile for Filter Waste

WIPP REMOTE HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Heterogeneous Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|----------------------|----------------------|------------------------------|
| AW | 0.0 | 0.2 | 0.2 |
| IN | 12.8 | 0.0 | 12.8 |
| KA | 11.2 | 25.2 | 36.4 |
| LA | 78.4 | 930.0 | 1008.4 |
| OR | 497.9 | 238.3 | 736.2 |
| RL | 201.0 | 2454.8 | 2655.8 |
| <u>RH TOTALS:</u> | 801.3 | 3648.5 | 4449.8 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Inorganic Materials | 29.28 | 29.28 | 0.00 |
| Organics | Cellulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Figure 5-13. WIPP RH-TRU Waste Profile for Heterogeneous Waste

WIPP REMOTE HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Inorganic Non-metal Waste

| | <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|-------------|----------------------|----------------------|------------------------------|
| | RL | 0.0 | 1227.4 | 1227.4 |
| <u>RH TOTALS:</u> | | 0.0 | 1227.4 | 1227.4 |

| <u>Material Parameters (kg/m3)</u> | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|------------------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 572.12 | 572.12 | 0.00 |
| Organics | Cellulosics | 24.04 | 24.04 | 0.00 |
| | Rubber | | | |
| | Plastics | 24.04 | 24.04 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Figure 5-14. WIPP RH-TRU Waste Profile for Inorganic Nonmetal Waste

WIPP REMOTE HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Lead/Cadmium Metal Waste

| | <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|-------------|----------------------|----------------------|------------------------------|
| | AW | 0.0 | 0.9 | 0.9 |
| <u>RH TOTALS:</u> | | 0.0 | 0.9 | 0.9 |

| <u>Material Parameters (kg/m3)</u> | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|------------------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Inorganic Materials | 29.28 | 29.28 | 0.00 |
| Organics | Cellulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Figure 5-15. WIPP RH-TRU Waste Profile for Lead/Cadmium Metal Waste

WIPP REMOTE HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Solidified Inorganic Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|----------------------|----------------------|------------------------------|
| AW | 0.0 | 0.1 | 0.1 |
| IN | 11.6 | 0.0 | 11.6 |
| OR | 605.0 | 180.0 | 785.0 |
| RL | 0.0 | 1227.4 | 1227.4 |
| <u>RH TOTALS:</u> | 616.6 | 1407.5 | 2024.1 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 290.75 | 290.75 | 0.00 |
| Organics | Cellulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Figure 5-16. WIPP RH-TRU Waste Profile for Solidified Inorganic Waste

WIPP REMOTE HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Unspecified Metal Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|----------------------|----------------------|------------------------------|
| AE | 0.0 | 47.6 | 47.6 |
| AW | 0.2 | 0.6 | 0.8 |
| <u>RH TOTALS:</u> | 0.2 | 48.2 | 48.4 |

| <u>Material Parameters (kg/m3)</u> | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|------------------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Inorganic Materials | 29.28 | 29.28 | 0.00 |
| Organics | Cellulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Figure 5-17. WIPP RH-TRU Waste Profile for Unspecified Metal Waste

CHAPTER 6

6. WASTE MATERIAL PARAMETERS

6.1 INTRODUCTION

Some waste materials that occur in TRU waste may degrade over the 10,000-year period for performance modeling (EPA, 1993a). Some of these waste materials may produce gas by either chemical, microbial, or radiolytic processes (WIPP PA, 1993). These types of processes need to be evaluated as part of the WIPP SP and PA modeling effort to analyze their impact on repository behavior.

6.2 PARAMETER DESCRIPTION

This chapter identifies and defines the waste material parameters to be evaluated in performance assessment calculations. The same methodology used for identifying waste stream profiles and combining them into site-specific and WIPP waste profiles is used to develop a disposal inventory for WIPP by waste material parameters (see Figures 2-1 and 4-1). Waste material parameter information is provided for each waste stream profile (Figure 1-2). This waste material parameter information is used to estimate the anticipated WIPP inventory, which is then scaled to obtain the repository design limit (disposal inventory). This inventory is presented as a weighted average with a maximum and minimum expected weight/volume for each waste material parameter.

A discussion of the methodology for assignment of waste parameter information from the NID to WTWBIR waste streams is presented in Section 2.3.4 and Appendix J. The 10 waste material parameters and packaging materials that are direct inputs into the SP and PA models are:

Inorganics

- Iron-based metals/alloys – This designation is meant to include iron and steel alloys in the waste and does not include the waste container materials.
- Aluminum-based metals/alloys – Aluminum or aluminum-based alloys in the waste materials.
- Other Metals – All other metals found in the waste materials (e.g., copper, lead, zirconium, tantalum, etc.). The lead portion of lead rubber gloves/aprons are also included in this category.
- Other Inorganic Materials – Include inorganic nonmetal waste materials such as concrete, glass, firebrick, ceramics, sand, and inorganic sorbents.

Organics

- Cellulosics – Includes those materials, generally derived from high polymer plant carbohydrates. Examples are paper, cardboard, kimwipes, wood, cellophane, cloth, etc.
- Rubber – Includes natural or manmade elastic latex materials. Examples are Hypalon, Neoprene, surgeons' gloves, leaded-rubber gloves (rubber part only), etc.
- Plastics – Includes generally manmade materials, often derived from petroleum feedstock. Examples are polyethylene, polyvinylchloride, Lucite, Teflon, etc.

Solidified Materials

- Inorganic Matrix – This includes any homogenous materials consisting of sludge or aqueous-based liquids that are solidified with cement, Envirostone, or other solidification agents. Examples are wastewater treatment sludge, cemented aqueous liquids, and inorganic particulates, etc.
- Organic Matrix – This includes cemented organic resins, solidified organic liquids, and sludges.

Soils

- Generally consists of naturally occurring soils that have been contaminated with inorganic waste materials.

Packaging Materials

- Steel – For this revision of the WTWBIR all CH-TRU waste is **assumed** to be packaged in 55-gallon drums and RH-TRU waste is **assumed** to be packaged in the RH-TRU shipping container for disposal in WIPP. As additional data on other packaging configurations is specified by the TRU waste generator/storage sites, this information will be added to the WTWBIR.
- Plastics – For this revision of the WTWBIR, all CH-TRU waste is assumed to be packaged in ~80 mil high-density polyethylene liner with several layers of plastic bags inside.
- Lead – The RH-TRU canister contains lead as well as steel.

6.3 METHODOLOGY

If an MWIR waste stream is a direct match with a waste stream in the NID (i.e., has the same IDC), then that waste material parameter information is used in the WTWBIR. In cases where a direct match does not occur, the waste stream description and WMCs are used in conjunction with expert judgement and general process knowledge to assign waste parameter information from a particular NID waste stream to the particular MWIR waste stream (see Appendix J for additional information). In some cases, two or more NID waste streams could be combined on a weighted basis to provide the correct mix of waste materials for the MWIR waste stream.

The NID information provides weights for materials in an average drum and sometimes provides minimum and maximum weights for the materials. These data were used to calculate densities of particular materials for each IDC. These weights for each material parameter represent the waste profile for each IDC and, hence, for each MWIR waste stream.

Waste material parameters from the NID were rolled up into more general categories. The best way to describe this is with a **hypothetical example** as shown in Table 6-1.

TABLE 6-1. NID INFORMATION

| Waste Material Parameter | Minimum (wt%) | Average (wt%) | Maximum (wt%) |
|---------------------------------|----------------------|----------------------|----------------------|
| Paper | 10 | 30 | 80 |
| Kimwipes | 5 | 15 | 40 |
| Cloth | 0 | 5 | 10 |
| Cellulosics (summed) | 15 | 50 | |
| Drum Weights (kg) (waste only) | 50 | 95 | 150 |

The average weight percent does not add to 100 percent because other parameters such as metals make up the rest of an average drum. As shown in the fourth line, the data would roll up into the WTWBIR database as cellulosic materials. The result in the WTWBIR would be as follows:

| Weight per drum (Kg) | | | |
|----------------------|-----|------|-----|
| Parameter | Min | Avg | Max |
| Cellulose | 7.5 | 47.5 | 150 |

The minimum is the sum of the minimum weight percents in the NID multiplied by the minimum weight of waste (i.e., 15 percent x 50 kg = 7.5 kg) in the drum. The average is the sum of the average weight percents multiplied by the average weight of waste (i.e., 50 percent x 95 kg = 47.5 kg) in the drum. The maximum is the sum of the maximum weight percents multiplied by the maximum weight of waste (i.e., 100 percent x 150 kg = 150 kg) in the drum. In this case the maximum weight percents add to more than 100 percent which is physically impossible; therefore, 100 percent is used for the maximum weight percent. When tables and reports are computed for the WTWBIR, the weights per drum are converted to weight per cubic meter based on 0.208 cubic meters per 55-gallon drum.

The rollups of these material parameters by WMCGs or by site use the volumes from the MWIR data in the WTWBIR database. The roll ups by WMCGs or by site require combining data for several MWIR waste streams. The averages for the material parameters are calculated from the NID-derived average densities modified by the MWIR volume fractions and summed as follows:

$$\text{Average Density of rollup group} = \text{Average Density, of rollup group} \times \frac{(\text{Volume MWIR Stream})}{(\text{Total Volume of Group})} + \dots$$

The minimum density is chosen as the smallest minimum density of a particular waste material parameter in the MWIR waste streams in a particular site-specific rollup. The maximum density is chosen in a similar manner, except that the largest maximum density was chosen.

In many cases, the NID does not have data for minimum and maximum percentages, even though average percentages are provided. In these cases, for rollup purposes only, the minimum is assumed to be zero and the maximum is assumed to be equal to the average. This ensures that the calculated and rolled up maximum densities are greater than the average densities. However, the maximum density may not be a true maximum but the maximum average density (see Appendix L for further WTWBIR Database information).

6.4 QUALITY ASSURANCE

WTWBIR Team – The data entry, manipulations, and reporting was conducted in conformance to a Quality Assurance Plan (CTS-WTAC-0001). The basic concept of the plan was to:

- Maintain record copies of the database at different points in the development.
- Maintain an auditable record of additions and changes to the database.
- Document and verify the correct use of the database to produce the reports and tables used in the WTWBIR.

This was accomplished by documenting and verifying the changes, additions, corrections, and report and table generation through the use of formal change forms signed and dated by the implementor and checker. The implementor is the individual who initially makes the changes or develops the report or table and the checker is another individual who checks and verifies that the initial work was correct. If the initial implementation was not correct, the checker confers with the implementor, changes are agreed upon, and the checker and implementor both check that the changes are properly implemented.

The change form is also used by anyone on the WTWBIR team to request a change or addition to the database. In this case the form also includes the requestor's name and the date requested. The requestor can also be the checker or implementor – but not both.

The database manager is responsible for maintaining the record copies of the database, tracking and ensuring proper use of change forms, and ensuring that the technical lead for the WTWBIR team is cognizant of changes being made to the data.

6.5 WIPP WASTE MATERIAL PARAMETER ROLLUPS

The waste material parameters that are inputs into the SP process and PA models are presented in Table 6-2 for CH-TRU waste and Table 6-3 for RH-TRU waste. These tables represent the WIP disposal inventory of waste material parameters. These waste material parameters are the final rollups of the WIPP waste profiles in Tables 5-1 through 5-17.

TABLE 6-2. WIPP CH-TRU WASTE MATERIAL PARAMETER DISPOSAL INVENTORY

| Radiological Desig: CH | | (Kg/m ³) | | |
|------------------------------|------------------|----------------------|---------|---------|
| | Materials | Maximum | Average | Minimum |
| Inorganics: | Iron Based | 1.7E+03 | 4.0E+01 | 0.0E+00 |
| | Aluminum Based | 7.4E+01 | 3.0E+00 | 0.0E+00 |
| | Other Metals | 1.6E+03 | 1.6E+01 | 0.0E+00 |
| | Other Inorganics | 3.1E+03 | 5.2E+01 | 0.0E+00 |
| Organics: | Cellulose | 2.0E+03 | 2.0E+02 | 0.0E+00 |
| | Rubber | 4.6E+02 | 2.0E+01 | 0.0E+00 |
| | Plastics | 2.9E+03 | 6.5E+01 | 0.0E+00 |
| Solidified Materials: | Inorganic | 2.0E+03 | 1.9E+01 | 0.0E+00 |
| | Organic | 2.0E+03 | 1.2E+01 | 0.0E+00 |
| Soils | | 6.7E+02 | 5.3E+00 | 0.0E+00 |
| Total Volume: | 1.3E+05 | | | |
| Container Materials: | | | | |
| | Steel | | 1.4E+02 | |
| | Plastic Liner | | 3.9E+01 | |

TABLE 6-3. WIPP RH-TRU WASTE MATERIAL PARAMETER DISPOSAL INVENTORY

| Radiological Desig: RH | | (Kg/m ³) | | |
|----------------------------------|------------------|----------------------|---------|---------|
| | Materials | Maximum | Average | Minimum |
| Inorganics: | Iron Based | 1.7E+03 | 7.1E+01 | 0.0E+00 |
| | Aluminum Based | 2.8E+01 | 3.8E+00 | 0.0E+00 |
| | Other Metals | 9.1E+02 | 5.0E+00 | 0.0E+00 |
| | Other Inorganics | 5.7E+02 | 1.3E+02 | 0.0E+00 |
| Organics: | Cellulose | 4.5E+02 | 3.4E+01 | 0.0E+00 |
| | Rubber | 1.8E+01 | 2.9E+00 | 0.0E+00 |
| | Plastics | 1.5E+02 | 3.2E+01 | 0.0E+00 |
| Solidified Materials: | Inorganic | 2.0E+03 | 7.0E+01 | 1.6E+02 |
| | Organic | 3.0E+00 | 5.3E-03 | 0.0E+00 |
| Soils | | | | |
| Total Volume: | | 2.6E+03 | | |
| Canister, Plug Materials: | | | | |
| | Steel | | 2.6E+03 | |
| | Lead | | 4.6E+02 | |

CHAPTER 7

7. REFERENCES

DOE – See U.S. Department of Energy.

EPA – See U.S. Environmental Protection Agency.

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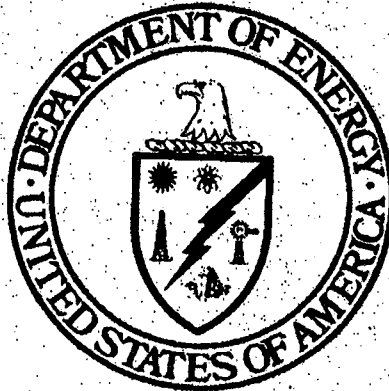
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Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report



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APPENDIX A

APPENDIX A GLOSSARY

40 CFR Part 191, Protection of Environment. EPA: Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and TRU Radioactive Wastes – The EPA's environmental standards for the storage (Subpart A) and disposal (Subpart B) of spent nuclear fuel, and high-level and TRU radioactive wastes. This is the primary post-closure standard that applies to WIPP. It limits annual radiation doses to the public from waste management storage and disposal facilities.

40 CFR Part 268, Protection of Environment. EPA: Land Disposal Restrictions – Restricts the land disposal of all hazardous wastes and specifies strict treatment standards that must be met before these wastes can be land-disposed.

Americium (Am) – A TRU radionuclide having an atomic number of 95, containing 95 electrons and 95 protons. Am-241 (half-life 432.7 y) results from the decay of Pu-241 (half-life 14.4 y). Waste initially rich in Pu-241 will therefore "grow" in Am-241 for several decades as the Pu decays. Am-241 exists in finite amounts in TRU waste at INEL, LANL, LLNL, NTS, ORNL, RFP, and SRS.

Anticipated Inventory – The sum of the stored and projected inventories, as defined in this document.

Buried Waste – TRU waste buried in shallow trenches prior to the 1970 Atomic Energy Commission policy that required TRU waste to be retrievably stored.

Californium (Cf) – A TRU element having an atomic number 98 (the number of protons in the nucleus). An alpha emitter (half-life 2.64 y), Cf-252 also spontaneously fissions, thus making it desirable as a neutron source. Cf-252 is created by neutron bombardment of Cm-244 targets. OR is the only production agency for Cf. As a result, the OR inventory is the only TRU waste inventory showing finite quantities of this element.

Code of Federal Regulations (CFR) – (1) A codification of the general and permanent rules published in the **Federal Register** by the department and agencies of the federal government. The CFR is divided into 50 titles that represent broad areas subject to federal regulation. It is issued quarterly and revised annually. (2) All federal regulations in force are published annually in codified form in the CFR.

Contact-Handled (CH) TRU Waste – Packaged TRU wastes with an external surface dose rate of 200 mrem or less per hour.

Curie – A quantitative measure of radioactivity equal to 3.7×10^{10} disintegrations per second.

Curium (Cm) – A TRU element having an atomic number of 96 (the number of protons in the nucleus). An alpha emitter (half-life 18.1 y), Cm-244 is used for neutron bombardment of targets for the production of Cf-252 at ORNL. In spite of its half-life being less than 20 years, OR considers and handles Cm-244 as a TRU nuclide. Some TRU waste at both OR and SR contains Cm-244.

Decontamination and Decommissioning (D&D) – The process through which DOE facilities which are no longer operational are cleared of contamination and removed from service. In

particular, a reference to D&D waste is a reference to the waste materials that are generated during D&D activities.

Defense Waste – (1) Radioactive waste from any activity performed in whole or in part in support of DOE atomic energy defense activities; excludes waste under purview of the Nuclear Regulatory Commission or generated by the commercial nuclear power industry. (2) Nuclear waste derived mostly from the manufacture of nuclear weapons, weapons-related research programs, the operation of naval reactors, and the decontamination of production facilities.

Department of Energy Site – A DOE-owned or -controlled tract used for DOE operations. Either a tract owned by DOE or a tract leased or otherwise made available to the federal government under terms that afford to DOE rights of access and control substantially equal to those that DOE would possess if it were the holder of the fee (or pertinent interest therein) as agent of and on behalf of the government. One or more DOE operations/program activities are carried out within the boundaries of the described tract.

Design Capacity – The planned waste capacity of the Waste Isolation Pilot Plant.

Disposal – Emplacement of waste in a manner that assures isolation from the biosphere for the foreseeable future with no intent of retrieval and that requires deliberate action to regain access to the waste. For example, disposal of wastes in a mined geologic repository occurs when all of the shafts to the repository area are backfilled and sealed.

Disposal Inventory – The total inventory defined for WIPP emplacement (after scaling) to be used for SP and PA calculations.

Environmental Restoration (ER) – Those activities associated with the remediation of sites contaminated with hazardous and/or radioactive materials. In particular, a reference to remediation activities conducted under the auspices of the DOE Office of Environmental Restoration and Waste Management, Office of Environmental Restoration, EM-40.

Federal Facility Compliance Act (FFCA) – Public law 102-386, 1992.

Gas Production – Three gas generation processes are expected to be a factor in the degradation of TRU wastes in the WIPP repository. The generation of gaseous species is expected to occur through chemical (i.e., corrosion), microbial, and radiolytic processes.

Generator/Storage Sites – See Waste Generator/Storage Sites.

Hazardous Waste – Those wastes that are designated hazardous by EPA (or state) regulations through the RCRA.

Integrated Data Base (IDB) – The latest version of the IDB, the *Integrated Data Base for 1993: U.S. Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics* (DOE, 1994b)

Mixed TRU Waste – TRU waste that contains both radioactive and hazardous components as defined by the Atomic Energy Act and the RCRA as codified in 40 CFR Parts 263, 265, 268, and 270 (EPA, 1980a; 1980b; 1986; and 1983).

Mixed Waste Inventory Report (MWIR) – The latest release of information from the MWIR database that supports requirements under the FFCA of 1992 (Public Law 102-386). The latest

version of the MWIR documentation/files is *Distribute of Phase II Mixed Waste Inventory Report Data*, dated May 17, 1994 (DOE, 1994a). This information replaces the Phase I MWIR release (DOE, 1994c).

Newly Generated Wastes – See Projected Inventory.

No-Migration Variance Petition (NMVP) – Section 3004 of RCRA allows EPA to grant a variance from the land disposal restrictions when a determination can be made that, to a reasonable degree of certainty, there will be no migration of hazardous constituents from the disposal unit for as long as the waste remains hazardous. Specific requirements for making this demonstration are found in 40 CFR 268.6, and EPA has published a draft guidance document to assist petitioners in preparing a variance request.

Non-Mixed TRU Waste – Transuranic waste that does not contain hazardous constituents or exhibit hazardous characteristics, as identified in 40 CFR 261, Subparts C and D.

Nonradionuclide Inventory Database (NID) – A database of the nonradionuclide constituents in the TRU inventory, originally developed by IT during 1988/1989 in support of SNL/NM PA efforts. A summary of the database was transmitted to SNL/NM in a letter report dated May 1989 (WIPP PA, 1991). A copy of the NID waste stream information used in the WTWBIR is provided in Appendix D.

Performance Assessment (PA) – (1) A systematic analysis of the potential risks posed by waste management systems to the public and environment and a comparison of those risks to established performance objectives. (2) An analysis that (a) identifies the processes and events that might affect the disposal system, (b) examines the effects of these processes and events on the performance of the disposal system, and (c) estimates the cumulative releases of radionuclides, considering the associated uncertainties, caused by all significant processes and events. These estimates shall be incorporated into an overall probability distribution of cumulative release to the extent practicable. (3) A term used to denote all activities (qualitative and quantitative) carried out to (a) determine the long-term ability of a site/facility to effectively isolate the waste and ensure the long-term health and safety of the public and (b) provide the basis for demonstrating regulatory compliance.

Plutonium (Pu) – A radionuclide having an atomic number of 94, the first TRU element. Pu isotopes exist in some TRU waste at all the major DOE storage facilities. The significant isotopes that may exist in measurable quantities at these facilities are Pu-238 through Pu-242. Each isotope is an alpha emitter; the respective half-lives in years are: 238=87.7, 239=24,000, 240=6,563, 241=14.4, 242=376,000. Because of its high activity, Pu-238 can contribute significantly to the thermal loading on some TRU waste. Pu-241 decays, primarily by beta emission, to Am-241.

Process Knowledge – The determination of waste container contents through the study of existing records on the production history of the waste.

Projected Inventory – That part of the inventory that has not been generated but is estimated to be generated at some time in the future by the TRU waste generator/storage sites. The estimated timeframe may vary, but is usually between 20 and 30 years. "Newly generated waste" also is sometimes used as a synonym for the projected inventory.

Radioactive – Substances that emit radiation either naturally or as a result of scientific manipulation.

Radionuclide – (1) A species of atom having an unstable nucleus, that is subject to spontaneous decay or disintegration and usually accompanied by the emission of ionizing radiation. (2) Any nuclide that emits radiation. A nuclide is a species of atom characterized by the constitution of its nucleus and hence by the number of protons, the number of neutron, and the energy content.

Remote-Handled (RH) TRU Waste – Packaged TRU wastes with an external surface dose rate exceeding 200 mrem per hour.

Repository – Designated location for disposal of transuranic wastes; the Waste Isolation Pilot Plant.

Resource Conservation and Recovery Act (RCRA) – (1) Establishes a system for controlling hazardous waste from generation to disposal. (2) A Federal law passed in 1976, and amended under the HSWA of 1984, that established a structure to track and regulate hazardous wastes from the time of generation to disposal. The law requires safe and secure procedures to be used in treating, handling, transporting, storing, and disposing of hazardous substances. RCRA is designed to prevent new uncontrolled hazardous waste sites. The law also regulates the disposal of solid waste that may not be considered hazardous. (3) Specifically, Subtitle D of RCRA governs the management of solid waste. (Note: 40 CFR Parts 260-281 are the regulations for complying with RCRA with respect to hazardous waste and hazardous waste treatment, storage, and disposal facilities.)

Retrievable Storage – Designated storage location for transuranic wastes that is designed, operated, and maintained in such a manner that the wastes remain accessible for subsequent retrievable operations.

Scaling – The process for adjusting the anticipated inventory to the design limit (disposal inventory) of the WIPP repository.

Site-Specific Waste Profile – Represents a WMCG at a particular DOE TRU waste generator/storage site. That is, one or more waste stream profiles, at a particular DOE TRU waste site, that have been placed in the same WMCG are summarized in the site-specific waste profile.

Stakeholders – Those persons and/or groups of people and organizations who are affected or perceive they are affected by the DOE waste management program. Stakeholders include DOE management, employees, and contractors (internal); and executive, legislative, and regulatory groups, public representatives, the general public, intervenor groups, special interest groups, contractors, suppliers, and universities (external).

Stored Inventory – That part of the TRU inventory currently in retrievable storage as of the time of the last data call for inventory information. Retrievably stored waste includes waste stored in buildings or in berms with earthen cover since 1970 and **does not include any waste that was buried prior to 1970.**

System Prioritization (SP) – The SP is a process formulated to identify a set of activities (required experiments, modeling, engineering design, and waste acceptance criteria) that will lead to regulatory compliance. The process is formulated such that it also: (1) addresses stakeholder and regulator concerns early and throughout the regulatory process and (2) leads to a fully defensible performance assessment to be used in demonstrating regulatory compliance. Ultimate products and associated customers are:

- (1) A decision matrix containing the most likely sets of activities that will lead to compliance as a function of time and budget to be delivered to the WIPP program manager,
- (2) A performance assessment built on assumptions and data that are defensible in the eyes of the stakeholders and the regulators to be delivered to the regulatory compliance branch of Carlsbad Area Office/WIPP through the Westinghouse Waste Isolation Division and ultimately to the EPA, and
- (3) A set of regulatory issues and their current status that result from the SP process and are to be included in compliance packages by the Westinghouse Waste Isolation Division.

Thorium (Th) – A radionuclide having an atomic number of 90. Although not TRU, Th-232 is an alpha emitter (half-life 14 billion years) and exists in finite amounts in some TRU waste at HA, IN, and OR. [Note: Thorium is naturally occurring and contributes to background radiation at some sites (e.g., IN)]

Transuranic – Pertaining to elements that have atomic numbers greater than 92, including neptunium, plutonium, americium, and curium; all are radioactive, are products of artificial nuclear changes, and are members of the actinide group.

Transuranic (TRU) Waste – (1) Waste containing alpha-emitting radionuclides with an atomic number greater than 92 and half-lives greater than 20 years, at concentrations of TRU isotopes greater than 100 nanocuries per gram of waste. **This core definition appears in modified form in various relevant documents as follows:** (a) For purposes of management, DOE Order 5820.2A: (i) considers TRU waste, as defined above, "without regard to source or form" (*The proposed revision to the Order [DOE Order 5820.2A Major Issues for Revision, May 6, 1992]* contemplates removing this clause); (ii) allows head of field elements to determine that wastes containing other alpha-emitting radionuclides must be managed as TRU waste; and (iii) adds "at time of assay," implying both that the classification of a waste as TRU waste is to be made based on an assay, and that such classification can be superseded only by another assay. (b) For purposes of setting standards for management and disposal, 40 CFR 191.02(i) adds "except for: (i) high-level wastes; (ii) wastes that the DOE has determined, with the concurrence of the EPA Administrator, do not need the degree of isolation required by this part; or (iii) wastes that the Nuclear Regulatory Commission has approved for disposal on a case-by-case basis in accordance with 10 CFR 61. (2) Waste materials contaminated with U-233 (and its daughter products), with certain isotopes of plutonium, or with other nuclides with atomic numbers greater than 92. In order to be classified as TRU waste, the long-lived alpha activity from subject isotopes must exceed 100 nanocuries per gram of waste material and from the use of plutonium in the fabrication of nuclear weapons. (3) Wastes that are contaminated with radioactive elements heavier than uranium, thus the name trans-(or beyond) uranic.

TRUCON – See TRUPACT-II Content Code.

TRUPACT-II Content Codes (TRUCON) – The document containing a description of the waste stream, waste form, and package configuration for each waste content code authorized for shipment in TRUPACT-II containers.

Unknown Waste Stream – Those waste streams for which there is insufficient process knowledge to assign a specific WMC.

Uranium (U) – A naturally radioactive element with the atomic number of 92 (number of protons in the nucleus) and an atomic weight of approximately 238. The two principal naturally occurring isotopes are the fissionable U-235 (0.7 percent of natural uranium) and the fertile U-

238 (99.3 percent of natural uranium). (Note: An alpha emitter [half-life 159,000 y], U-233 also spontaneously fissions; it is present in finite quantities in some TRU waste inventories at INEL and ORNL.)

Waste Acceptance Criteria (WAC) – The criteria used to determine if waste packages are acceptable.

Waste Form – The physical form of the waste such as sludges, combustibles, metals, etc.

Waste Generator/Storage Sites – The 10 largest DOE facilities and several smaller sites throughout the U.S. that produce and store TRU waste.

Waste Isolation Pilot Plant (WIPP) – (1) The project authorized under Section 213 of the DOE National Security and Military Applications of Nuclear Energy Authorization Act of 1980 (Public Law 96-164; 93 Stat. 1259, 1265) to demonstrate the safe, and environmentally sound, disposal of radioactive waste materials generated by atomic energy defense activities. (2) A research and development facility, located near Carlsbad, New Mexico, to be used for demonstrating a practical, long-term solution to a complex problem: the safe disposal in deep geologic repositories of TRU waste resulting from DOE activities. (3) The WIPP has two primary objectives. First, the WIPP is investigating the behavior of salt rock and interactions between the salt rock and radioactive wastes in a variety of forms. Second, the WIPP seeks to demonstrate the safe and efficient handling, transportation, and disposal of TRU waste in an actual facility.

Waste Material Parameter – A waste material that occurs in TRU waste that is an input parameter into one or more current SP or PA models, an SP or PA model under development, a potential future model, or is required to adequately describe the waste form.

Waste Matrix Code (WMC) – A DOE-developed coding system for organizing waste streams by their physical and chemical properties. A WMC is assigned to each waste stream by the DOE TRU waste generator/storage site. The WMC for each waste stream can be found in the Mixed Waste Inventory Report (DOE, 1994a). This coding system allows waste streams within the DOE TRU waste system that have similar physical and chemical waste form properties to be categorized together. WMCs also have been called "waste treatability codes" in other DOE documents. Appendix C contains the DOE guidance document to help categorize individual waste streams. An example of a WMC for "heterogeneous waste" would be 5400.

Waste Matrix Code Group (WMCG) – Consists of a series of WMCs that for SP or PA purposes has similar physical and chemical properties.

Waste Stream – Individually, those stored or projected wastes that are defined by a unique identifier in the MWIR.

Waste Stream Name – A site-specific, unique descriptive identifier for a TRU waste stream.

Waste Stream Profile – A description of a CH-TRU or RH-TRU waste stream destined for shipment to and disposal in WIPP, if authorized under permits and certifications by appropriate regulatory agencies for disposal in the WIPP repository. The waste stream profile is presented in tabular format and is intended to provide a summary of the important information about a particular waste stream.

Waste Stream Site ID – A site-specific alphanumeric identification code which provides a unique identifier for an individual TRU waste stream.

WIPP Waste Profile – Represents a summary of TRU waste at all DOE TRU waste generator/storage sites that have an identical WMCG.

APPENDIX B

APPENDIX B ACRONYMS AND ABBREVIATIONS

| | |
|----------------|---|
| AE | ANL-E site identifier |
| AL | Ames Laboratory |
| ANL-E | Argonne National Laboratory-East |
| AW | ANL-W site identifier |
| ANL-W | Argonne National Laboratory-West |
| CFR | Code of Federal Regulations |
| CH | contact handled |
| D&D | decontamination and decommissioning |
| DOE | U.S. Department of Energy |
| EPA | U.S. Environmental Protection Agency |
| ER | environmental restoration |
| ET | ETEC site identifier |
| ETEC | Energy Technology Engineering Center |
| FFCA | Federal Facility Compliance Act |
| GAO | U.S. General Accounting Office |
| ID | identification |
| IDB | Integrated Data Base |
| IDC | Item description code |
| IN | INEL site identifier |
| INEL | Idaho National Engineering Laboratory |
| IMWIR | Interim Mixed Waste Inventory Report (April 1993) |
| IT | International Technology Corporation |
| KA | KAPL site identifier |
| KAPL | Knolls Atomic Power Laboratory - Knolls Site |
| kg | kilograms |
| LA | LANL site identifier |
| LANL | Los Alamos National Laboratory |
| LB | LBL site identifier |
| LBL | Lawrence Berkeley Laboratory |
| LL | LLNL site identifier |
| LLNL | Lawrence Livermore National Laboratory |
| MD | Mound Plant |
| m ³ | cubic meters |
| mrem | millirem |
| MU | University of Missouri site identifier |
| MWIR | Mixed Waste Inventory Report |
| NID | Nonradionuclide Inventory Database |
| NMVP | No-Migration Variance Petition |
| NT | NTS site identifier |
| NTS | Nevada Test Site |
| OR | ORNL site identifier |
| ORNL | Oak Ridge National Laboratory |
| PA | performance assessment (in text only) |
| PA | PGDP site identifier (in waste profiles only) |
| PCB | polychlorinated biphenyls |
| PGDP | Paducah Gaseous Diffusion Plant |
| RCRA | Resource Conservation and Recovery Act |
| RF | RFP site identifier |
| RFP | Rocky Flats Plant |

| | |
|------------|---|
| RH | remote handled |
| RL | Richland (Hanford) site identifier |
| SA | SNL/NM site identifier |
| SNL/NM | Sandia National Laboratories/New Mexico |
| SP | systems prioritization |
| SR | SRS Site Identifier |
| SRS | Savannah River Site |
| TRU | transuranic |
| TRUCON | TRUPACT-II Content Codes |
| TRUPACT-II | Transuranic Package Transporter-II |
| TSCA | Toxic Substances Control Act |
| WAC | waste acceptance criteria |
| WIPP | Waste Isolation Pilot Plant |
| WMC | waste matrix code |
| WMCG | waste matrix code group |
| WS | waste stream |
| WTWBIR | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report |
| WV | WVDP site identifier |
| WVDP | West Valley Demonstration Project |

APPENDIX C

DOE Waste Treatability Groups Guidance

September 1993

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Final Draft

DOE WASTE TREATABILITY GROUPS GUIDANCE

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1. INTRODUCTION

This guidance document provides a standard methodology for categorizing waste information that should be implemented at DOE sites. This methodology will assist in the development of the final mixed waste inventory report, the Site Treatment Plans, preparation of the national Site Treatment Plan summary, and analyzing different national treatment options.

The U.S. Department of Energy (DOE) is required by the Resource Conservation and Recovery Act (RCRA), as amended on October 6, 1992 by the Federal Facility Compliance Act, to prepare an inventory report of its mixed wastes and treatment capacities and technologies. The purpose of the inventory report is to identify all mixed waste in the DOE system that is currently stored or will be generated over the next five years, provide an inventory of the existing and planned treatment capacity, and identify DOE's technology development efforts. To aid in identifying the appropriate treatment needs, the waste streams must be grouped according to their technological requirements in a consistent manner. This grouping or characterization will enable the waste streams to be matched to available treatment capacities either at the site or at another DOE facility as well as to identify treatment and technology development needs.

The Federal Facility Compliance Act also requires DOE to develop site treatment plans for each facility at which DOE generates or stores mixed waste. The plans must describe the development of treatment capacities and technologies for treating the site's mixed waste. These plans must be submitted to the State in which the site is located or to the U.S. Environmental Protection Agency (EPA) for review and approval, approval with modification, or disapproval. As discussed in the schedule for the development of the plans, published in the Federal Register on April 6, 1993, DOE intends to prepare two interim versions of the plan (i.e., conceptual plan and draft plan), in addition to the final plan, to facilitate discussions among states and other interested parties. DOE also intends to prepare a summary document (or national "roll up") for each of the conceptual, draft, and final plans to provide a national picture of DOE's technology needs and possible options for treatment of its mixed waste. To properly integrate the site plans into a cohesive national summary and to be able to use the national summary to help identify and evaluate DOE-wide treatment needs against treatment capacities and capabilities, and to develop treatment options, each site plan must be developed using the same technically-based approach for categorizing waste streams and identifying appropriate treatment.

1.1 BACKGROUND

The need for a consistently applied, technically-based approach for categorizing waste information has been demonstrated by past national strategic planning efforts involving mixed waste. Since the 1987 byproduct rulemaking, several complex-wide reports and studies have been prepared on mixed waste characteristics and inventories, and associated treatment technology and capacity needs. Most notable of these were the:

- National Report on Prohibited Wastes and Treatment Options, submitted to the Environmental Protection Agency (EPA) in January 1990 as required by the Rocky Flats Plant Federal Facility Compliance Agreement;
- DOE complex-wide Land Disposal Restrictions Case-by-Case Extension Application for Thirds Radioactive Mixed Wastes, submitted to the EPA in November 1991; and
- Interim Mixed Waste Inventory Report, submitted to the EPA and the States in April 1993 as required by the Federal Facility Compliance Act.

Throughout these efforts, characteristic and inventory data on mixed waste streams were collected from the sites resulting in the development of a national data set.

Two significant problems that became apparent throughout these efforts were: 1) mixed waste streams were not always defined on a technical basis that supported assessment of treatment technology and capacity needs, and 2) information and data available on mixed waste streams have improved through time, resulting in apparent inconsistencies between reports. A contributing factor to both these problems has been the lack of a technically-based approach to defining waste streams and the lack of a standardized method to define treatability groups.

Section 102(a)(3) of the Federal Facility Compliance Act waives sovereign immunity for Federal facilities for fines and penalties for violations of federal, state, interstate, and local hazardous and solid waste management requirements. This waiver is delayed for three years for any violations of the land disposal restrictions storage prohibition, RCRA section 3004(j), involving mixed waste at DOE facilities. This waiver is contingent upon the management of the waste being in compliance with all other applicable requirements. The Act further delays the waiver of sovereign immunity beyond the three year period at a facility if DOE is in compliance with an approved plan for developing treatment capacity and technologies for mixed waste generated or stored at the facility and an order requiring compliance with the plan.

DOE published in the Federal Register on April 6, 1993 a schedule for the development of the plans for treating mixed waste for each facility at which DOE generates or stores mixed waste. These plans will describe the use of existing capabilities, and the development of treatment capacities and technologies for treating the site's mixed waste. The Act allows the Plans to provide for centralized, regional or on-site treatment of mixed waste, or any combination thereof. DOE has proposed to prepare two interim versions of the plan, the Conceptual Site Treatment Plan (CSTP) and the Draft Site Treatment Plan (DSTP), to facilitate discussion between the site and the regulatory agency and among states, EPA, and other interested parties on technical and equity issues. The interim plans will also facilitate information exchange among the sites and regulatory agencies and help identify common technical problems and needs. The interim plans will provide information about the technology needs, existing and planned treatment facilities, and treatment options, including potential options for treating off-site wastes. Each site, if possible, will discuss its CSTP framework with the appropriate State or EPA, and will submit to the State or EPA, by October 1993, a CSTP that will provide a preliminary identification of options for treating the site's waste. DOE will summarize all CSTPs by preparing a national roll-up for various cross-cut treatment options. Based on the CSTPs, the national summary, and discussions among states, EPA, DOE and others, each site will submit a DSTP not later than August 1994 to identify the preferred option for treating its mixed waste. Each DOE site will submit the final Site Treatment Plan not later than February 1995 to the appropriate State or EPA for review and approval.

In order to properly integrate the site treatment plans into a cohesive national summary, to be able to use the national summary to help identify and evaluate DOE-wide treatment needs against treatment capacity and capabilities, and to develop treatment options, each Site Treatment Plan must be developed using the same technically-based approach for categorizing waste streams and identifying appropriate treatment. By using the same methodology, DOE sites will be able to share information across the complex on potential treatment technologies/treatment capacities for any specific category of waste. Therefore, this should assist the site in the development of various options with the site treatment plan.

The Act also requires the DOE to prepare an inventory report of its mixed wastes and treatment capacities and technologies. The interim report was submitted to EPA and the States in April 1993 as required by the Act. The inventory report as required by the Act contains:

- a national inventory of all mixed waste in the DOE system that are currently stored or will be generated over the next five years, including waste stream name, description, EPA waste codes basis for characterization, quantity stored that is subject to the Land Disposal Restrictions (LDRs) storage prohibition, quantity stored that is not subject to the LDRs, expected generation over the next five years, Best Demonstrated Available Technology (BDAT) used for developing the LDR requirements, waste minimization activities, and a statement of whether and how the radionuclide content alters or affects the use of treatments technologies; and
- a national inventory of mixed waste treatment capacities and technologies, including information such as the description, capacities, and locations of all existing and proposed treatment facilities, explanations for not including certain existing facilities in capacity evaluation, information to support decisions on unavailability of treatment technologies for certain mixed wastes, and the planned technology development activities.

The purpose of the inventory report is to identify all mixed waste in the DOE system and to be able to match these waste streams to the appropriate treatment. To accomplish this, the waste streams and their associated treatability groups must be identified consistently at all DOE sites so that the waste streams can be matched to available treatment capacities and to identify treatment needs and technology development needs complex-wide. DOE intends to revise the interim inventory report and to update it on an annual basis. The inventory report will act as the most up-to-date information source for DOE's mixed waste.

When developing the site treatment plans and updating the interim mixed waste inventory report, this guidance provides a technically-based method for categorizing waste streams based on the regulatory and technological requirements from different waste streams/waste packages. While developed primarily for mixed waste, the method may be applied to other DOE waste types, e.g., radioactive waste and hazardous waste.

1.2 PURPOSE AND SCOPE

The purpose of the guidance is to provide a technically-based methodology for categorizing DOE waste information in a consistent, and technically valid manner to be used for the development of the Site Treatment Plans and to update the Mixed Waste Inventory Report. The methodology provides a formal approach for categorizing waste based on waste characteristics. This guidance includes:

- A methodology with standard definitions for aligning site-specific wastes into treatability groups that share similar treatment needs;
- A standard structure that will allow comparing waste treatability groups among sites, and combining all site-specific data into one data set for the national summary and the mixed waste inventory report;
- A technically-based approach to identify treatment technology needs, treatment capacity needs, technology development needs, and storage and disposal requirements for DOE mixed waste.

The treatability group assignments will allow comparisons of basic treatment needs to available and planned treatment capacity. The assignment of a treatability group to a waste stream is not intended to provide the detailed level of knowledge necessary to certify waste streams to treatment or disposal facility waste acceptance criteria (WAC), or to provide detailed characterization information required to proceed

beyond conceptual design to specific facilities. Additional characterization of waste streams will be required to accomplish facility design and WAC certification.

2. METHODOLOGY OVERVIEW

The methodology for categorizing waste streams into treatability grouping is based on the premise that the key information necessary for identifying treatment methods/or assessing technology needs can be identified from the radiological, physical, and chemical properties of the waste and its contaminants. This methodology uses three characteristic parameters: radiological, bulk physical/chemical matrix, and contaminants.

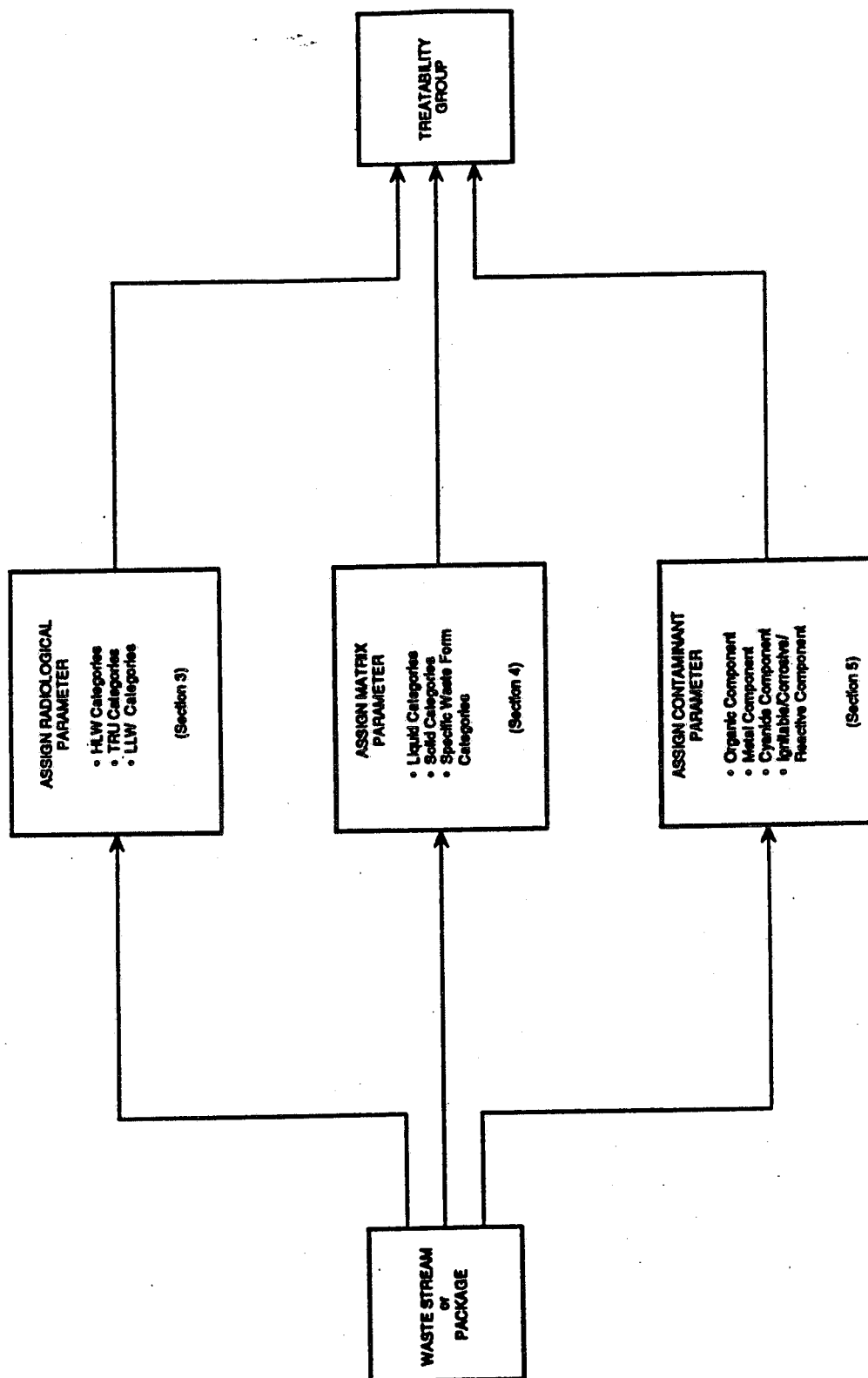
For the purposes of this guidance, waste streams should be consistent with those identified in the most current Mixed Waste Inventory report. For the Mixed Waste Inventory Report a waste stream is defined as "waste material generated from a single process or activity (e.g., a pipe or series of pipes from a single production process, replacement of a certain component of a production or support process (like a battery), or remediation activity like cleaning out a lagoon), covered by only one treatability group. For wastes stored in transportable containers, a waste stream should comprise at least one container (unless the material in the container is likely to be separated prior to sending it anywhere for processing). A single waste stream in storage may include several containers of waste material, but only if the material is from the same type of source and of essentially the same physical and chemical properties."¹ A single waste stream should be assigned to no more than one unique treatability group consisting of a single radiological and bulk physical/chemical matrix parameter. A single waste stream may have more than one contaminant parameter assigned to it.

Each of these parameters impacts treatment needs and/or technology determinations. The radiological parameter influences the design of the treatment facility to control radioactive releases and to prevent worker exposure. The matrix parameter identifies the physical/chemical properties of the waste and influences the facility design and technology selection. The contaminant parameter of the waste determines the type of treatment requirements from a regulatory and technical perspective. The contaminant parameter also influences any necessary follow-up or residual treatment and dictates any necessary effluent controls required. Combined, the parameters define a treatability group for the waste. Figure 1 displays the logic flow for identifying the relevant characteristic parameters for each waste type.

Sections 3, 4, and 5 of this report discuss the various categories under each characteristic parameter and provide definitions for these categories. The primary focus of this guidance document is to assign each waste to the lowest level subcategory based on the data available at the site on a given waste stream. Having detailed treatability group data could potentially influence the design of a planned treatment facility, enabling it to manage all wastes within a single (or set of) treatability group(s). In preparation of the national summary of the STPs, lower level subcategories may be rolled-up to the higher level categories for various general cross-cut evaluations. Detailed data will not be lost during the roll-up but will be available for more specific treatment and technology analyses. Section 6 provides guidelines for implementing the methodology and example applications. As more detailed characterization data becomes available the treatability group assignment of a waste stream may change. The most current, accurate information should be used in making the treatability group assignment.

1. Definition of "waste stream" from the Definitions for Key Mixed Waste Data Elements; Draft -- August 26, 1993.

Figure 1. Treatability Group Assignment Logic



3. RADIOLOGICAL PARAMETER

This section presents the categories and definitions for the radiological parameter. The radiological categories are based on the activity level of the waste and will influence the design of the facility to control radioactive releases and operator exposure. As shown in Figure 2, the primary radiological categories include:

- naturally occurring and accelerator produced radioactive materials,
- low-level waste,
- transuranic waste, and
- high-level waste.

These categories for the radiological parameter are based on definitions established in DOE Order 5820.2A. Following are the more specific categories and definitions within each of these general radiological categories.

3.1 NATURALLY OCCURRING AND ACCELERATOR PRODUCED RADIOLOGICAL CATEGORIES

Naturally occurring and accelerator produced radioactive materials (NARM) are defined by DOE Order 5820.2A as any radioactive material that can be considered naturally occurring and is not source, special nuclear, or byproduct material or that is produced in a charged particle accelerator. DOE Order 5820.2A specifies that NARM be managed as low-level waste or as tailings under the Uranium Mill Tailings Radiation control Act of 1978 (Public Law 95-604). The radiological hazards posed by these materials are similar to those from low-level waste. These materials are not included in the definition of mixed waste.

3.2 LOW-LEVEL WASTE RADIOLOGICAL CATEGORIES

Low-level waste is defined by DOE Order 5820.2A as all radioactive waste that are not classified as high-level waste, TRU waste, spent fuel, or uranium or thorium mill tailings. Mixed low-level waste is further categorized according to beta-gamma activity levels and levels of transuranic alpha contamination. Following are the category definitions.

3.2.1 Contact-Handled LLW

LL/CH Contact-Handled LLW

This category includes low-level waste that has an exposure rate of 200 mR/hr or less on contact.

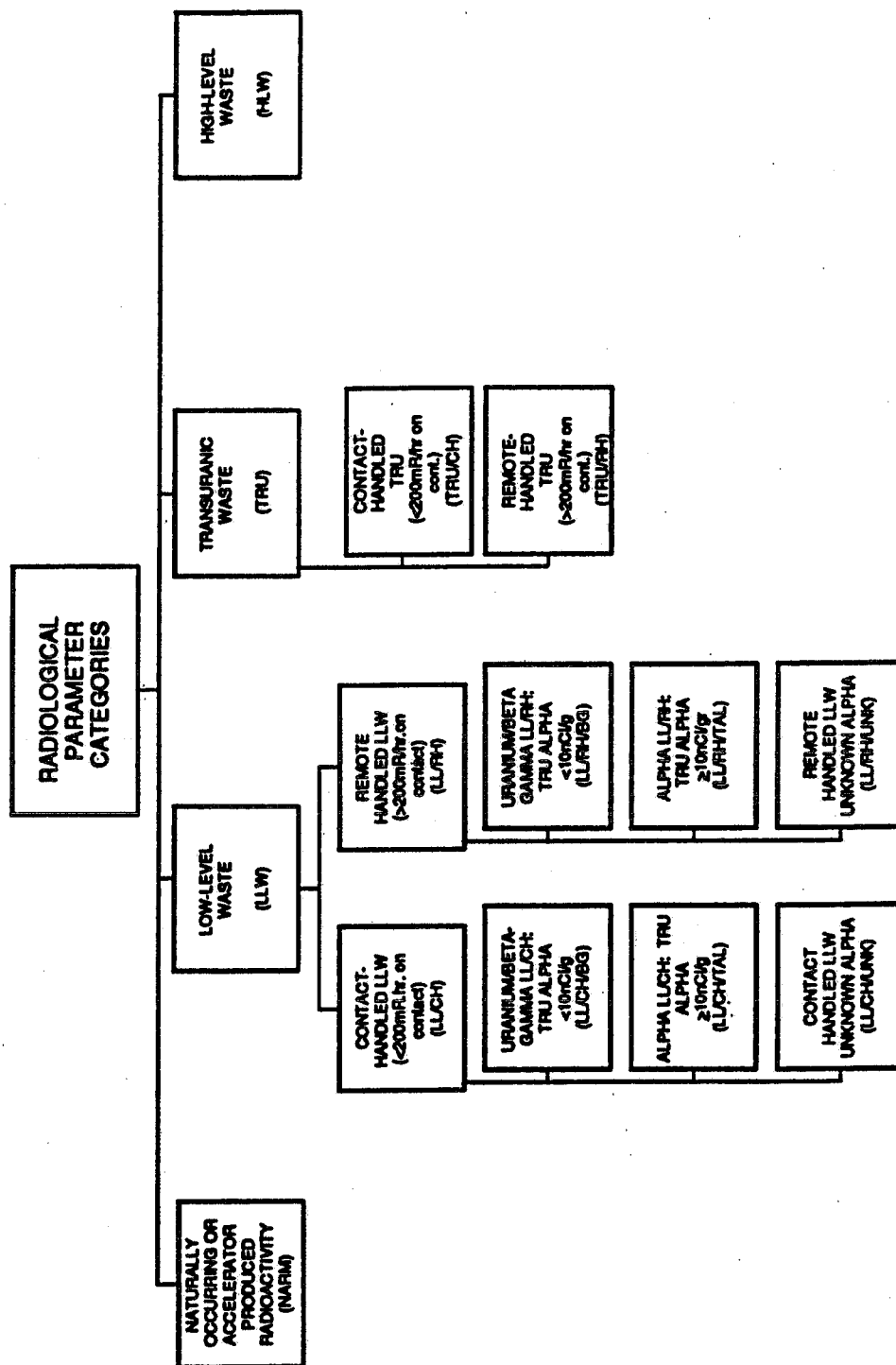
LL/CH/BG Uranium/Beta-Gamma LL/CH

This category includes contact handled low-level waste that contains transuranic isotopes with a combined transuranic alpha activity of less than 10 nCi/g. Alpha activity from uranium is not included in the limit.

LL/CH/TAL Transuranic Alpha LL/CH

This category includes contact handled low-level waste that contains transuranic isotopes with a combined alpha activities of greater than or equal to 10 nCi/g. Alpha activity from uranium is not included in this limit.

Figure 2. Radiological Parameter Categories



LL/CH/UNK Contact Handled LLW Unknown Alpha

This category includes contact handled low-level waste which has not been sufficiently characterized to determine the transuranic alpha activity.

3.2.2 Remote-Handled LLW

LL/RH Remote-Handled LLW

This category includes mixed low-level waste that has an exposure rate greater than 200 mR/hr on contact.

LL/RH/BG Uranium/Beta-Gamma LL/RH

This category includes remote handled low-level waste that contains transuranic isotopes with a combined transuranic alpha activity of less than 10 nCi/g. Alpha activity from uranium is not included in the limit.

LL/RH/TAL Transuranic Alpha LL/RH

This category includes remote handled low-level waste that contains transuranic isotopes with a combined alpha activities of greater than or equal to 10 nCi/g. Alpha activity from uranium is not included in this limit.

LL/RH/UNK Remote Handled LLW Unknown Alpha

This category includes remote handled low-level waste which has not been sufficiently characterized to determine the transuranic alpha activity.

3.3 TRANSURANIC WASTE RADIOLOGICAL CATEGORIES

Transuranic (TRU) waste, as defined by DOE Order 5820.2A refers to all radioactive waste that contain more than 100 nCi/g of alpha-emitting isotopes with atomic numbers greater than 92 and half-lives greater than 20 years. This definition includes isotopes of neptunium (Np), plutonium (Pu), americium (Am), curium (Cm), and californium (Cf). Transuranic waste is categorized according to beta-gamma activity levels as follows.

3.3.1 Contact-Handled TRU

TRU/CH Contact-Handled TRU

This category includes TRU waste having an exposure rate of 200 mR/hr or less on contact.

3.3.2 Remote-Handled TRU

TRU/RH Remote-Handled TRU

This category includes TRU waste having an exposure rate greater than 200 mR/hr on contact.

3.4 HIGH-LEVEL WASTE RADIOLOGICAL CATEGORIES

High-level waste (HLW) is defined by DOE Order 5820.2A as "... the highly radioactive waste material that results from the reprocessing of spent nuclear fuel, including the liquid waste produced directly in the reprocessing, and any solid waste derived from the liquid that contains a combination of transuranic waste and fission products in concentrations as to require permanent isolation." There are no definitive radiological subcategories defined in this guidance for HLW. Typically, waste determined to be high-level contains transuranic isotopes and is remote-handled.

4. MATRIX PARAMETER

This section presents the categories and definitions for the matrix parameter. The matrix parameter describes the bulk physical/chemical form of the waste. The physical/chemical form of the waste affects both the appropriate regulatory treatment requirements and the applicability of specific treatment technologies. In some cases, the physical/chemical form of the waste may dictate some type of pretreatment or design modification to accommodate special handling of the waste.

The matrix parameter categories and definitions are presented in five subsections of this guidance according to generic physical/chemical waste form classifications. The generic physical/chemical waste form classifications are:

- Liquids
- Solids
- Specific Waste Forms
- Unknown Matrix
- Final Waste Forms

The matrix parameter categories are shown in Figure 3. The following subsections present the categories and definitions for each of the above classifications.

4.1 LIQUIDS

These categories address waste streams that are liquid, including pumpable slurries. In general, slurries are considered pumpable with a total suspended/settled solids (TSS) content of up to approximately 35% to 40%. Only liquids and slurries packaged in bulk, free form (e.g. drum, tank) are included in these categories. Liquids and slurries packaged as lab packs are addressed elsewhere (see Section 4.3). Following are the category definitions.

4.1.1 Aqueous Liquids/Slurries

1000 Aqueous Liquids/Slurries

This category includes liquids and slurries containing less than 1% total organic carbon (TOC).

1100 Wastewaters

This category includes aqueous liquids/slurries containing less than 1% TSS.

1110 Acidic Wastewaters

This category includes wastewaters with a $\text{pH} \leq 2.0$.

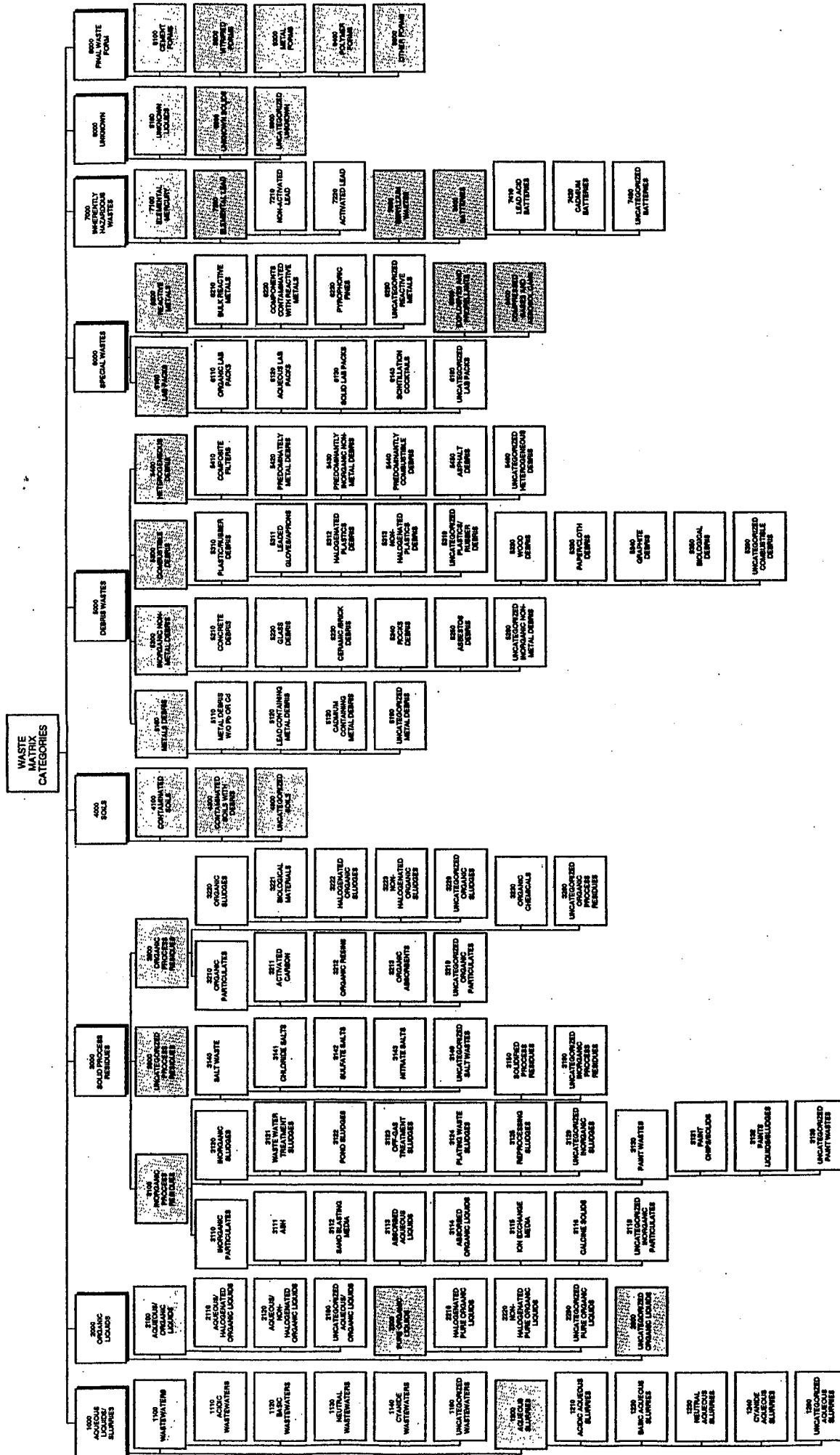
1120 Basic Wastewaters

This category includes wastewaters with a $\text{pH} \geq 12.5$. Basic wastewaters that contain cyanides at, or above, applicable LDR treatment standard levels are assigned to category 1140.

1130 Neutral Wastewaters

This category includes wastewaters with $2.0 < \text{pH} < 12.5$.

Figure 3. Matrix Parameter Categories



1140 Cyanide Wastewaters

This category includes basic wastewaters containing cyanides at, or above, applicable LDR treatment standard levels.

1190 Uncategorized Wastewaters

This category includes wastewaters that;

- 1) are insufficiently characterized to categorize more definitively into one of categories 1110 through 1140, or
- 2) do not meet the criteria for categorization into one of the 1110 through 1140 categories, or
- 3) are mixtures of two or more of the 1110 through 1140 categories.

1200 Aqueous Slurries

This category includes pumpable aqueous liquids/slurries with TSS \geq 1% or with an unknown TSS level.

1210 Acidic Aqueous Slurries

This category includes aqueous slurries with a pH \leq 2.0.

1220 Basic Aqueous Slurries

This category includes aqueous slurries with a pH \geq 12.5. Basic aqueous slurries that contain cyanides at, or above, applicable LDR treatment standard levels are assigned to category 1240.

1230 Neutral Aqueous Slurries

This category includes aqueous slurries with $2.0 < \text{pH} < 12.5$.

1240 Cyanide Aqueous Slurries

This category includes basic aqueous slurries containing cyanides at, or above, applicable LDR treatment standard levels.

1290 Uncategorized Aqueous Slurries

This category includes aqueous slurries that;

- 1) are insufficiently characterized to assign into one of categories 1210 through 1240, or
- 2) do not meet the criteria for assignment into one of the 1210 through 1240 categories, or
- 3) are mixtures of two, or more, of the 1210 through 1240 categories.

4.1.2 Organic Liquids

2000 Organic Liquids

This category includes liquids and slurries containing \geq 1% TOC.

2100 Aqueous/Organic Liquids

This category includes miscible and immiscible mixtures of aqueous and organic liquids. The TOC content of the mixture is at least 1% but less than about 99%.

2110 Aqueous/Halogenated Organic Liquids

This category includes aqueous/organic liquids that contain at least 1000 ppm halogenated organic compounds (HOC).

2120 Aqueous/Nonhalogenated Organic Liquids

This category includes aqueous/organic liquids that contain less than 1000 ppm HOC.

2190 Uncategorized Aqueous/Organic Liquids

This category includes aqueous/organic liquids for which it is not known whether the HOC content is less than, equal to, or greater than 1000 ppm.

2200 Pure Organic Liquids

This category includes liquids that are essentially purely organic (e.g. TOC > 99%).

2210 Halogenated Pure Organic Liquids

This category includes pure organic liquids that contain at least 1000 ppm HOC.

2220 NonHalogenated Pure Organic Liquids

This category includes pure organic liquids that contain less than 1000 ppm HOC.

2290 Uncategorized Pure Organic Liquids

This category includes pure organic liquids for which it is not known whether the HOC content is less than, equal to, or greater than 1000 ppm.

2900 Uncategorized Organic Liquids

This category includes liquids with TOC \geq 1% for which insufficient information is available to determine if the liquid is essentially purely organic (e.g. TOC > 99%).

4.2 SOLIDS

These categories address waste with physically solid matrices, including sludges. As opposed to slurries, sludges are considered nonpumpable. Solids are initially categorized according to the general classifications of process residues, soil, and debris. Figure 3 shows these general classifications and associated categories. Following are the category definitions.

4.2.1 Solid Process Residues

3000 Solid Process Residues

Solid Process Residues are defined in this guidance as solid materials, excluding soil, that do not meet the EPA criteria for classification as debris. Examples of solid process residues are sludge and particulate type materials. This category includes waste that are at least 50% by volume solid process residues. The balance of the matrix may be debris or soil.

3100 Inorganic Process Residues

This category includes waste that is at least 50% by volume inorganic process residues. These are defined as process residues with sufficient inorganic solids content such that a minimum of approximately 20% by weight of the waste would remain as residue (i.e. ash/solids) following incineration.

3110 Inorganic Particulates

This category includes waste that is at least 50% by volume inorganic particulates, including residual or absorbed liquids, if present. Typical examples of inorganic particulates are incinerator ash, dust, sand blasting residue, vermiculite, and ion exchange media.

3111 Ash

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) bottom or fly ash resulting from waste incineration.

3112 Sand Blasting Media

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) unused, or spent, surface cleaning or decontamination particulate material. Typical examples of surface cleaning or decontamination particulate materials are coarse sand and glass beads.

3113 Absorbed Aqueous Liquids

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) inorganic particulate absorbent materials, including absorbed aqueous liquids, if present. Typical examples of inorganic particulate absorbent materials are clay, vermiculite, and diatomaceous earth.

3114 Absorbed Organic Liquids

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) inorganic particulate absorbent materials with absorbed organic liquids. Typical examples of inorganic particulate absorbent materials are clay, vermiculite, and diatomaceous earth.

3115 Ion Exchange Media

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) unused, or spent, inorganic ion exchange resins.

3116 Calcined Solids

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) solid materials generated from the calcination of liquids. A specific example is the HLW calcine at the INEL.

3119 Uncategorized Inorganic Particulates

This category includes waste that is;

- 1) consistent with the definition for inorganic particulates but lack adequate characterization information for assignment into one of the 3111 through 3116 categories, or

- 2) consistent with the definition for inorganic particulates but inconsistent with the definitions for categories 3111 through 3116, or
- 3) a mixture of categories 3111 through 3116 with none contributing at least 50% by volume to the matrix.

3120 Inorganic Sludges

This category includes waste that is at least 50% by volume inorganic sludges. The inorganic sludge may be mixed with stabilization agents, such as cement, provided the mixture has not properly cured to form a solidified monolith (see category 3150). The inorganic sludge may also be mixed with inorganic particulate absorbent materials.

3121 Wastewater Treatment Sludges

This category includes waste that is at least 50% by volume secondary sludge or filtercake from wastewater treatment processes.

3122 Pond Sludges

This category includes waste that is at least 50% by volume inorganic sludge generated from the remediation of surface impoundments, such as evaporation or sedimentation basins.

3123 Off-Gas Treatment Sludges

This category includes waste that is at least 50% by volume inorganic sludge generated from wet off-gas treatment systems.

3124 Plating Waste Sludges

This category includes waste that is at least 50% by volume inorganic sludge generated from plating operations.

3125 Reprocessing Sludges

This category includes waste that is at least 50% by volume inorganic sludge generated from nuclear fuel reprocessing operations.

3129 Uncategorized Inorganic Sludges

This category includes waste that is;

- 1) consistent with the definition for inorganic sludges but lack adequate characterization information for assignment into one of the 3121 through 3125 categories, or
- 2) consistent with the definition for inorganic sludges but inconsistent with the definitions for categories 3121 through 3125, or
- 3) a mixture of categories 3121 through 3125 with none contributing at least 50% by volume to the matrix.

3130 Paint Waste

This category includes waste that is at least 50% by volume new, used, or removed paint.

3131 Paint Chips/Solids

This category includes waste that is at least 50% by volume solid, or unpourable paint. Examples of waste that might be included in this category are dried paint chips or containers filled with dried paint. Painting equipment (e.g. brushes, rollers, etc) are categorized as debris.

3132 Paint Liquids/Sludge

This category includes waste that is at least 50% by volume pourable paint. Examples of waste that might be included in this category are opened or unopened cans of paint.

3139 Uncategorized Paint Waste

This category includes waste that is;

- 1) consistent with the definition for salt waste but lack adequate characterization information for assignment into one of the 3131 and 3132 categories, or
- 2) consistent with the definition for salt waste but inconsistent with the definitions for categories 3131 and 3132.

3140 Salt Waste

This category includes waste that is at least 50% by volume salts, including interstitial liquids, if present.

3141 Chloride Salts

This category includes waste that is at least 50% by volume salts and contain more than trace (i.e. > 1000 ppm) levels of chlorides or other halogens.

3142 Sulfate Salts

This category includes waste that is at least 50% by volume salts and contain more than trace (i.e. > 1000 ppm) levels of sulfur compounds.

3143 Nitrate Salts

This category includes waste that is at least 50% by volume salts. The salts are predominantly nitrates.

3149 Uncategorized Salt Waste

This category includes waste that is;

- 1) consistent with the definition for salt waste but lack adequate characterization information for assignment into one of the 3141 through 3143 categories, or
- 2) consistent with the definition for salt waste but inconsistent with the definitions for categories 3141 through 3143, or
- 3) a mixture of categories 3141 through 3143 with none contributing at least 50% by volume to the matrix.

3150 Solidified Process Residues

This category includes waste that has been immobilized with cement, or other inorganic stabilization agents, and cured into a solidified form but do not meet disposal criteria.

3190 Uncategorized Inorganic Process Residues

This category includes waste that is;

- 1) consistent with the definition for inorganic homogeneous solids but lack adequate characterization information for assignment into one of the 3110 through 3150 categories, or
- 2) consistent with the definition for inorganic homogeneous solids but inconsistent with the definitions for categories 3110 through 3150, or
- 3) a mixture of categories 3110 through 3150 with none contributing at least 50% by volume to the matrix.

3200 Organic Process Residues

This category includes waste that is at least 50% by volume organic process residues. These are defined as process residues with a base structure that is primarily organic. The matrix may contain some inorganic solids content such that up to approximately 20% by weight of the waste would remain as residue (i.e. ash/solids) following incineration.

3210 Organic Particulates

This category includes waste that is at least 50% by volume organic particulates, including residual or absorbed liquids, if present. Typical examples of organic particulates are resins and activated carbon used in wastewater treatment, or particulate organic absorbent materials.

3211 Activated Carbon

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) spent or unused activated carbon. Activated carbon is typically used for removal of organic materials during off-gas or wastewater treatment operations.

3212 Organic Resins

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) spent or unused organic based resins, other than activated carbon, used in wastewater treatment or other applications. An example of waste that might be included in this category is organic ion exchange resins.

3213 Organic Absorbents

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) organic particulate absorbent materials, including any absorbed aqueous or organic liquids. Examples of waste that might be included in this category are sawdust or ground corn cobs with absorbed aqueous or organic liquids.

3219 Uncategorized Organic Particulates

This category includes waste that is;

- 1) consistent with the definition for organic particulates but lack adequate characterization information for assignment into one of the 3211 through 3213 categories, or
- 2) consistent with the definition for organic particulates but inconsistent with the definitions for categories 3211 through 3213, or
- 3) mixtures of categories 3211 through 3213 with none contributing at least 50% by volume to the matrix.

3220 Organic Sludges

This category includes waste that is at least 50% by volume organic sludges. Examples of waste streams included in this category are biological sludges and heavy, unpourable organic materials, such as tars or greases.

3221 Biological Materials

This category includes waste that is at least 50% by volume biological materials generated in treating wastewater from animals or people, or other biological materials that can not be classified as debris.

3222 Halogenated Organic Sludges

This category includes waste that is at least 50% by volume organic sludges which contain at least 1000 ppm HOC.

3223 Nonhalogenated Organic Sludges

This category includes waste that is at least 50% by volume organic sludges which contain less than 1000 ppm HOC.

3229 Uncategorized Organic Sludges

This category includes waste that is;

- 1) consistent with the definition for organic sludges but lack adequate characterization information for assignment into one of the 3221 through 3223 categories, or
- 2) consistent with the definition for organic sludges but inconsistent with the definitions for categories 3221 through 3223, or
- 3) mixtures of categories 3221 through 3223 with none contributing at least 50% by volume to the matrix.

3230 Organic Chemicals

This category includes waste that is at least 50% by volume solid, unused organic chemicals packaged in bulk form that are either being excessed or have expired. This category does not include solid organic chemicals packaged as lab packs (see Section 4.3).

3290 Uncategorized Organic Process Residues

This category includes waste that is;

- 1) consistent with the definition for organic homogeneous solids but lack adequate characterization information for assignment into one of the 3210 through 3230 categories, or
- 2) consistent with the definition for organic homogeneous solids but inconsistent with the definitions for categories 3210 through 3230, or
- 3) mixtures of categories 3210 through 3230 with none contributing at least 50% by volume to the matrix.

3900 Uncategorized Process Residues

This category includes waste that is;

- 1) consistent with the definition for homogeneous solids but lack adequate characterization information for assignment into one of the 3100 or 3200 categories, or
- 2) consistent with the definition for homogeneous solids but inconsistent with the definitions for categories 3100 or 3200.

4.2.2 Soils

4000 Soils

This category includes waste streams that are at least 50% by volume soil, including contamination from spills, etc. Soils are further categorized based on the amount of debris included in the matrix.

4100 Contaminated Soils

This category includes waste that is greater than approximately 95% by volume soil and rock, including contamination from spills, etc.

4200 Contaminated Soils/Debris

This category includes waste that is at least 50% by volume soil and 5% by volume other debris, not including rock. Rock materials that meet the criteria for debris should be included in the contaminated soil category (4100). This category includes contaminated soil and rock from spills etc., with the balance of the matrix being debris.

4900 Uncategorized Soils

This category includes waste that are;

- 1) consistent with the definition for soils but lack adequate characterization information for assignment into one of the 4100 or 4200 categories, or
- 2) consistent with the definition for soils but inconsistent with the definitions for categories 4100 or 4200.

4.2.3 Debris Waste

5000 Debris Waste

This category includes waste that is at least 50% by volume materials which meet the EPA criteria for classification as debris. These criteria are as follows:

"Debris means solid material exceeding a 60 mm particle size that is intended for disposal and that is: 1) a manufactured object, or 2) plant or animal matter, or 3) natural geologic material. However, the following materials are not debris: 1) any material for which a specific treatment standard is provided in Subpart D, Part 268, 2) process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and 3) intact containers of hazardous waste that are not ruptured and that retain at least 75% of their original volume. A mixture of debris that has not been treated to the standards provided by §268.45 and other material is subject to regulation as debris if the mixture is comprised primarily of debris, by volume, based on visual inspection." [40 CFR §268.2(g)]

"Hazardous Debris means debris that contains a hazardous waste, listed in Subpart D of Part 261, or that exhibits a characteristic of hazardous waste identified in Subpart C of Part 261." [40 CFR §268.2(h)]

5100 Metal Debris

This category includes debris that is approximately 95% by volume, or more, metal. Metal debris is further categorized according to lead and cadmium content.

5110 Metal Debris without Pb or Cd

This category includes debris that is approximately 95% by volume, or more, metal and do not contain any bulk, separable or bonded, lead or cadmium as part of the matrix.

5120 Lead Containing Metal Debris

This category includes debris that is approximately 95% by volume, or more, metal and contain bulk, separable or bonded, lead as part of the matrix. Examples of waste that might be included in this category are glovebox parts with lead clad in stainless steel or scrap metal that includes some lead bricks. This category does not include waste that meets the criteria for categorization as elemental lead or lead acid batteries (see Section 4.4).

5130 Cadmium Containing Metal Debris

This category includes debris that is approximately 95% by volume, or more, metal and contain bulk, separable or bonded, cadmium as part of the matrix. This category includes debris that is essentially entirely elemental cadmium, such as cadmium sheets. This category does not include cadmium batteries (see Section 4.4).

5190 Uncategorized Metal Debris

This category includes debris that is consistent with the definition for category 5100 but;

- 1) lack adequate characterization information for assignment into one of the 5110 through 5130 categories, or
- 2) contain both lead and cadmium, separable or bonded, as part of the bulk matrix.

5200 Inorganic Non-Metal Debris

This category includes waste that is approximately 95% by volume, or more, inorganic nonmetal debris.

5210 Concrete Debris

This category includes debris that is approximately 95% by volume, or more, concrete. An example of waste that might be included in this category is concrete chunks and blocks from decontamination and decommissioning activities. This category does not include waste solidified with cementitious stabilization agents (see Section 4.2).

5220 Glass Debris

This category includes debris that is approximately 95% by volume, or more, glass. Examples of waste that might be included in this category is leaded glass windows, bottles, or light bulbs. Crushed glass may be included in this category provided it meets the EPA particle size criteria for classification as debris.

5230 Ceramic/Brick Debris

This category includes debris that is approximately 95% by volume, or more, ceramic or brick materials. Examples of waste that might be included in this category are bricks, ceramic crucibles, and ceramic refractories.

5240 Rock Debris

This category includes debris that is approximately 95% by volume, or more, rock or gravel materials provided the particle size meets the EPA criteria for classification as debris.

5250 Asbestos Debris

This category includes debris that is approximately 95% by volume, or more, asbestos or asbestos based materials. Examples of waste that might be included in this category are asbestos containing gloves, firehoses, aprons, flooring tiles, pipe insulation, boiler jackets, and laboratory tabletops.

5290 Uncategorized Inorganic Non-Metal Debris

This category includes debris that is consistent with the definition for category 5200 but;

- 1) lack adequate characterization information for assignment into one of the 5210 through 5250 categories, or
- 2) inconsistent with the definitions for categories 5210 through 5250, or
- 3) is a mixture of the debris materials included in categories 5210 through 5250 with none contributing approximately 95% by volume, or more, to the matrix.

5300 Combustible Debris

This category includes debris that is approximately 95% by volume, or more, combustible materials. Examples of combustible debris are materials constructed of plastic, rubber, wood, paper, cloth, and graphite and biological materials.

5310 Plastic/Rubber Debris

This category includes debris that is approximately 95% by volume, or more, plastic and/or rubber materials. Examples of waste that might be included in this category

are plastic or rubber sheeting, containers, gloves, gaskets, and components of benelex or plexiglass.

5311 Leaded Gloves/Aprons Debris

This category includes debris that is approximately 95% by volume, or more, rubber materials which contain a high fraction of lead or lead compounds. Examples of waste that might be included in this category are leaded glovebox gloves or aprons.

5312 Halogenated Plastic Debris

This category includes debris that is approximately 95% by volume, or more, plastic/rubber materials which contain halogenated plastics, such as PVC, as part of the matrix.

5313 Nonhalogenated Plastic Debris

This category includes debris that is approximately 95% by volume, or more, plastic/rubber materials, excluding leaded gloves and aprons, which do not contain halogenated plastics as part of the matrix.

5319 Uncategorized Plastic/Rubber Debris

This category includes debris that is consistent with the definition for category 5310 but;

- 1) lack adequate characterization information for assignment into one of the 5311 through 5313 categories, or
- 2) inconsistent with the definitions for categories 5311 through 5313, or
- 3) is a mixture of the debris materials included in categories 5311 through 5313 with none contributing approximately 95% by volume, or more, to the matrix.

5320 Wood Debris

This category includes debris that is approximately 95% by volume, or more, wood or wood products other than paper. Examples of waste that might be included in this category are structural timbers, boxes, or pallets.

5330 Paper/Cloth Debris

This category includes debris that is approximately 95% by volume, or more, paper or cloth materials. Examples of waste that might be included in this category are protective clothing, rags, or wipes. Rags and wipes may contain some absorbed organic or aqueous liquids.

5340 Graphite Debris

This category includes debris that is approximately 95% by volume, or more, graphite based solid materials. Examples of waste that might be included in this category are crucibles, graphite components, and pure graphite.

5350 Biological Debris

This category includes debris that is approximately 95% by volume, or more, biological materials, including any chemical agents such as lime or formaldehyde.

Examples of waste that might be included in this category are biological samples and animal carcasses.

5390 Uncategorized Combustible Debris

This category includes debris that is consistent with the definition for category 5300 but;

- 1) lack adequate characterization information for assignment into one of the 5310 through 5350 categories, or
- 2) inconsistent with the definitions for categories 5310 through 5350, or
- 3) is a mixture of the debris materials included in categories 5310 through 5350 with none contributing approximately 95% by volume, or more, to the matrix.

5400 Heterogeneous Debris

This category includes waste that is at least 50% by volume debris materials which do not meet the criteria for assignment into categories 5100, 5200, or 5300 and associated subcategories. An example is waste that is essentially entirely debris but is not dominant (i.e. approximately 95% by volume, or more) in either metal, inorganic nonmetal, or combustible debris materials. Another example is waste that is at least 50% by volume debris materials with the balance being soil or solid process residues.

5410 Composite Filters

This category includes debris that is approximately 50% by volume, or more, HEPA or other filters constructed of more than one material type (i.e. metal, inorganic nonmetal, and combustible). Filters constructed of a single material type are assigned into the appropriate metal, inorganic nonmetal, combustible, or heterogeneous debris category depending on the composition of the entire waste matrix.

5420 Predominantly Metal Debris

This category includes debris that contains approximately 50% by volume, or more, but less than approximately 95% by volume metal materials. The balance of the matrix may be other types of debris materials (i.e. inorganic nonmetal, combustible), soil, or solid process residues.

5430 Predominantly Inorganic Non-Metal Debris

This category includes debris that contains approximately 50% by volume, or more, but less than approximately 95% by volume inorganic nonmetal materials. The balance of the matrix may be other types of debris materials (i.e. metal, combustible), soil, or solid process residues.

5440 Predominantly Combustible Debris

This category includes debris that contains approximately 50% by volume, or more, but less than approximately 95% by volume combustible materials. The balance of the matrix may be other types of debris materials (i.e. metal, inorganic nonmetal), soil, or solid process residues.

5450 Asphalt Debris

This category includes debris that is approximately 50% by volume, or more, asphalt or other bituminous materials. Examples of waste that might be included in this category are asphalt materials from roadways shingles, bituminous cement or other materials containing both tar and gravel.

5490 Uncategorized Heterogeneous Debris

This category includes debris that is consistent with the definition for category 5400 but;

- 1) lack adequate characterization information for assignment into one of the 5410 through 5450 categories, or
- 2) inconsistent with the definitions for categories 5410 through 5450, or
- 3) is a mixture of heterogeneous debris materials included in categories 5410 through 5450 with none contributing approximately 50% by volume, or more, to the matrix.

4.3 SPECIFIC WASTE FORMS

These categories address certain waste forms which require specific treatment technologies not expected to be common with other waste forms. Specific waste forms are initially categorized according to the general classifications of special waste or inherently hazardous waste. Figure 3 shows these general classifications and associated categories. Following are the category definitions.

4.3.1 Special Waste

6000 Special Waste

This category includes various specific waste forms which will require specific treatment methods that are not expected to be common with other waste forms. The waste forms include lab packs, reactive metals, explosives, and compressed gases and aerosols.

6100 Lab Packs

This category includes waste packaged as lab packs. In this guidance, lab packs are defined as waste with inner containers of free liquids or solid chemicals surrounded by absorbents and packaged within a larger outer container. The absorbents can be solid process residues materials or debris. Examples of absorbent materials include rags, vermiculite, diatomaceous earth, and paper wipes. This category does not include lab packs of elemental liquid mercury (see Section 4.3.2).

6110 Organic Lab Packs

This category includes lab packs that contain only organic liquids. This category does not include organic scintillation fluids contained in vials that are packaged in a lab pack configuration (see Category 6140).

6120 Aqueous Lab Packs

This category includes lab packs that contain only aqueous liquids. This category does not include aqueous scintillation fluids contained in vials that are packaged in a lab pack configuration (see Category 6140).

6130 Solid Lab Packs

This category includes lab packs of only solid chemicals or other solid materials.

6140 Scintillation Cocktails

This category includes scintillation fluids contained in vials that are packaged in a lab pack configuration.

6190 Uncategorized Lab Packs

This category includes lab packs that;

- 1) lack adequate characterization information for assignment into one of the 6110 through 6140 categories, or
- 2) are inconsistent with the definitions for categories 6110 through 6140, or
- 3) contain two, or more, of the above listed specific lab pack category materials (organic liquids, aqueous liquids, and solid chemicals).

6200 Reactive Metals

This category includes reactive metal waste. In this guidance, these are defined as waste meeting the criteria for classification as water reactive or ignitable reactive per the Third Third LDR rule (55FR 22545 and 22553). Typically these waste streams are sodium metal or sodium metal alloys, but can also include particulate fines of aluminum, uranium, zirconium, or other pyrophoric materials. The waste may be mixed with stabilizing materials.

6210 Bulk Reactive Metals

This category includes waste that is essentially bulk reactive metals and meets the criteria for classification as water reactive per the Third Third LDR rule. Typically this waste is sodium metal or sodium metal alloys.

6220 Components Contaminated with Reactive Metals

This category includes piping, pumps and other retired equipment waste that is considered water reactive per the Third Third LDR rule due to reactive metal contamination. The bulk of the material is not reactive metals, but the reactive metals require treatment before disposal.

6230 Pyrophoric Fines

This category includes waste that is essentially bulk materials which meets the criteria for classification as ignitable reactive per the Third Third LDR rule. Examples are fines of aluminum, uranium, zirconium, or other pyrophoric materials. The waste may be mixed with stabilizing materials.

6290 Uncategorized Reactive Metals

This category includes reactive metal waste with characteristics that are not consistent with the definitions for categories 6210 through 6230.

6300 Explosives/Propellants

This category includes waste consisting of substances which undergo rapid chemical transformations which produce large amounts of gases and heat. The gases rapidly expand at velocities exceeding the speed of sound (due to the heat of reaction), which creates a shock

wave and explosion. Waste that meets this definition should be identified here regardless of the specific physical form. Liquid nitroglycerine, for instance, should be categorized as explosive and not organic liquid. Similarly, TNT would be categorized as explosive rather than solid process residue.

6400 Compressed Gases/Aerosols

This category includes waste meeting the criteria for classification as ignitable compressed gases per the Third Third LDR rule (55FR 22545). Typically, this is waste consisting of pressurized gas cylinders or aerosol cans. Depressurized gas cylinders or aerosol cans would not be included in this category. These would be categorized into the appropriate debris category (see Section 4.2.2).

4.3.2 Inherently Hazardous Waste

7000 Inherently Hazardous Waste

This category includes waste in which the entire matrix is hazardous, such as elemental lead, or which the entire waste form is regulated, such as batteries.

7100 Elemental Mercury

This category includes waste that is bulk, pourable liquid mercury. The liquid mercury may be packaged in small containers within a larger container holding other materials (e.g. lab pack configuration).

7200 Elemental Lead

This category includes waste that contain at least 50% by volume bulk elemental lead. Examples of waste in this category are lead bricks, sheets, and pipes.

7210 Non-Activated Lead

This category includes waste meeting the above criteria for categorization as elemental lead in which the elemental lead shapes are only surface contaminated with radionuclides.

7220 Activated Lead

This category includes waste meeting the above criteria for categorization as elemental lead in which the elemental lead shapes are activated.

7300 Beryllium Waste

This category includes waste that is essentially beryllium dust or beryllium chips and fines that may also contain beryllium dust. This category does not include debris waste that is contaminated with beryllium dust.

7400 Batteries

This category includes waste consisting of batteries. The batteries may be packaged with absorbent materials (e.g. particulates, rags, etc.).

7410 Lead Acid Batteries

This category includes waste consisting of drained or undrained lead acid batteries.

7420 Cadmium Batteries

This category includes waste consisting of cadmium batteries.

7490 Uncategorized Batteries

This category includes waste consisting of batteries that;

- 1) lack adequate characteristic information to determine battery type, or
- 2) is of a type other than lead acid or cadmium, or
- 3) is a mixture of the above, or other, types.

4.4 UNKNOWN MATRIX

These categories address waste with insufficient characterization information to enable assignment into any of the categories addressed in Sections 4.1, 4.2, and 4.3. The categories are shown in Figure 3. Following are the category definitions.

4.4.1 Unknown Matrix

8000 Unknown Matrix

There are three unknown matrix subcategories as defined below.

8100 Unknown Liquids

This category includes bulk liquid or slurry waste which can not be further categorized as aqueous or organic (see Section 4.1) because it is not known if the TOC level is less, or greater than 1%.

8200 Unknown Solids

This category includes solid waste for which insufficient characterization information exists to further categorize as a solid process residue, soil, or debris per the definitions of Section 4.2.

8900 Uncategorized Unknown

This category includes waste for which insufficient characterization information is known to enable categorization as a liquid or solid (see Sections 4.1 and 4.2) or as one of the specific waste forms (see Section 4.3).

4.5 FINAL WASTE FORMS

These categories address final waste forms that meet disposal criteria, including applicable LDR treatment standards. Figure 3 shows the categories. Following are the category definitions.

4.5.1 Final Waste Forms

9000 Final Waste Forms

There are five subcategories of final waste forms as defined below.

9100 Cement Forms

This category includes waste that has been immobilized with grout or other cement type binders and meet disposal criteria, including applicable LDR treatment standards.

9200 Vitrified Forms

This category includes waste that has been immobilized via vitrification and meet disposal criteria, including applicable LDR treatment standards.

9300 Metal Forms

This category includes metal waste that has been consolidated or decontaminated and are ready for disposal or recycle.

9400 Polymer Forms

This category includes waste that has been immobilized with organic binders and meet disposal criteria, including applicable LDR treatment standards.

9900 Other Forms

This category includes all other final waste forms not addressed by categories 9100 through 9400 which meet disposal criteria, including applicable LDR treatment standards. Examples are amalgamated mercury and macroencapsulated lead.

5. CONTAMINANT PARAMETER

This section presents the categories and definitions for the contaminant parameter and instructions for assigning these categories. The contaminant categories are identified by the waste regulatory authority(s) and, for Federally RCRA regulated waste, is further defined by the types of hazardous contaminants and characteristics associated with the waste. These categories influence the treatment requirements for the waste from both a technical and regulatory perspective.

The regulatory authority classifications, used to identify the contaminant parameter, are as follows:

- Federally RCRA Regulated
- TSCA (PCB) Regulated
- State Regulated Hazardous Waste

The contaminant parameter is represented by a combination of all of the specific categories that are applicable to the waste. A waste stream may have more than one applicable contaminant category. The contaminant categories are shown in Figure 4.

A complete treatability group assignment for the contaminant parameter is represented by listing the combined contaminant categories that are applicable to the waste. The applicable categories should be listed in the following order:

| | |
|-----------------|------------|
| Organics | ORG |
| Metals | MET or MHG |
| Ignitable | I1...I9 |
| Corrosive | C9 |
| Reactive | R9 |
| TSCA Regulated | PCB |
| State Regulated | ST |

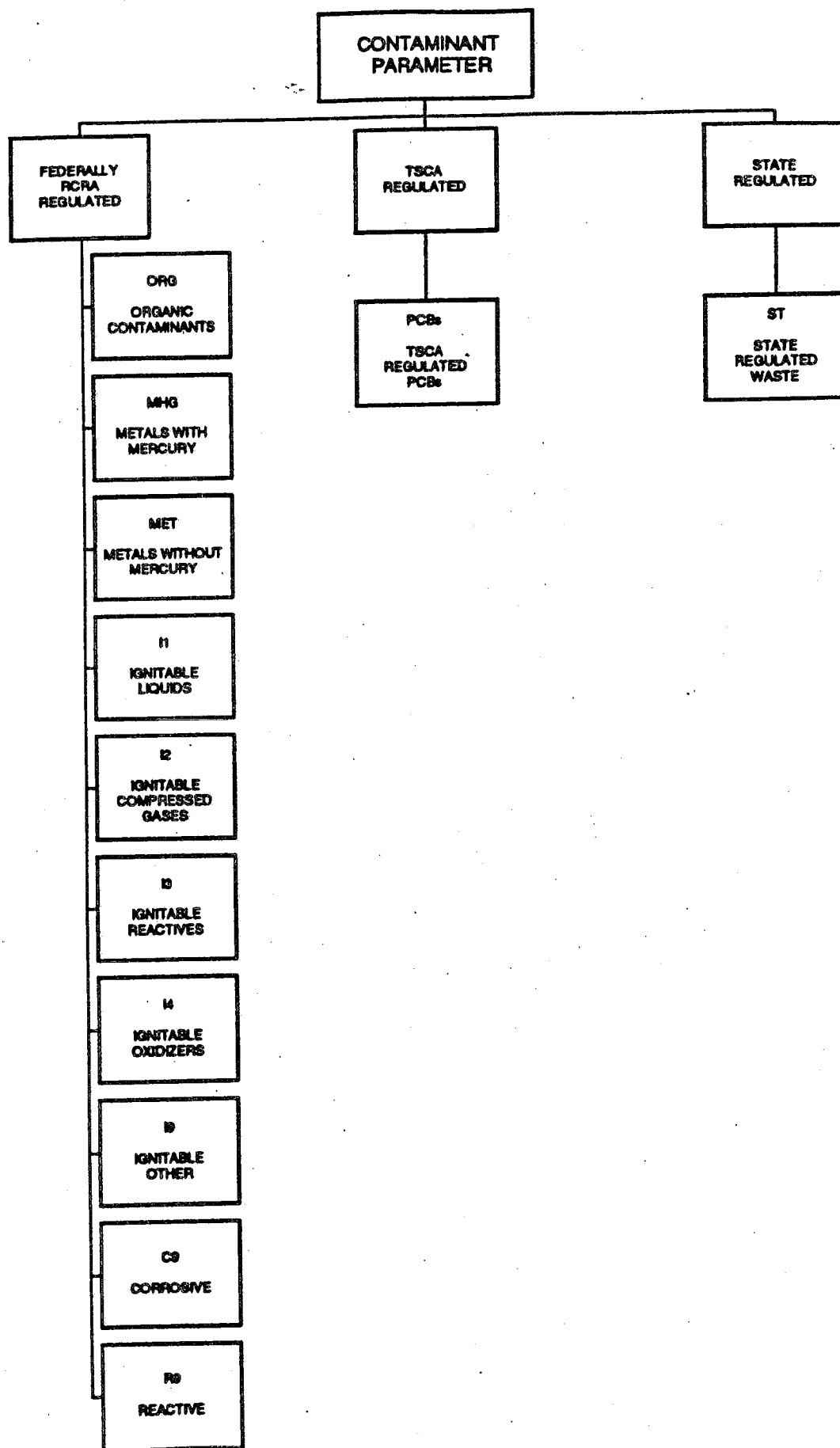
Various combinations of the contaminant categories can result in numerous possible contaminant parameters for Federally RCRA regulated waste. Following are the more specific category definitions.

5.1 FEDERALLY RCRA REGULATED

These wastes are hazardous pursuant to RCRA regulations promulgated by the EPA (i.e., 40 CFR 261). The contaminant parameter for waste in this regulatory authority classification are defined by five categories including:

- hazardous organics,
- metals,
- ignitability,
- corrosivity, and
- reactivity.

Following are the guidelines for determining the contaminant categories.



5.1.1 Organic Contaminants

ORG Organics

This category includes Federally RCRA regulated waste if the waste is assigned one, or more, of the EPA codes in Appendix A, Tables A-1 through A-8 indicating the presence of hazardous organics. The organic component is not included in cases where the only indicator of organic contamination is the presence of a listed EPA code for which LDR treatment standards have been met.

5.1.2 Metal Contaminants

MHG Metals With Mercury

This category includes Federally RCRA regulated waste if the waste is assigned one, or more, EPA hazardous waste codes indicating the presence of toxic metals, but specifically mercury, identified in Appendix A, Table A-12. Mercury is specifically emphasized over other toxic metals because of its prevalence in DOE waste and its effect on appropriate treatment technology selection, particularly with respect to effluent controls and recovery. This category is not included in cases where the only indicator of metal contamination is the presence of a listed EPA code for which LDR treatment standards have been met.

MET Metals Without Mercury

This category includes Federally RCRA regulated waste if the waste is assigned one, or more, EPA hazardous waste codes indicating the presence of toxic metals but does not include mercury, identified in Appendix A, Tables A-9 through A-11, but none of the EPA codes in Appendix A, Table A-12. This category is not included in cases where the only indicator of metal contamination is the presence of a listed EPA code for which LDR treatment standards have been met.

5.1.3 Ignitable Characteristic

I1 Ignitable Liquids

This category includes waste that is assigned the EPA hazardous waste code which indicates the characteristic of ignitability, D001, and meets the definition of ignitable liquids in the Third Third LDR rule (55 FR 22543).

I2 Ignitable Compressed Gases

This category includes waste that is assigned the EPA hazardous waste code which indicates the characteristic of ignitability, D001, and meets the definition of ignitable compressed gases in the Third Third LDR rule (55 FR 22543).

I3 Ignitable Reactives

This category includes waste that is assigned the EPA hazardous waste code which indicates the characteristic of ignitability, D001, and meets the definition of ignitable reactives in the Third Third LDR rule (55 FR 22543).

I4 Ignitable Oxidizers

This category includes waste that is assigned the EPA hazardous waste code which indicates the characteristic of ignitability, D001, and meets the definition of ignitable oxidizers in the Third Third LDR rule (55 FR 22543).

I9 Ignitable Other

This category includes waste that is assigned the EPA hazardous waste code which indicates the characteristic of ignitability, D001, but;

- 1) lacks adequate characterization information for assignment into one of the other ignitable categories, or
- 2) is a mixture of the other ignitable categories.

5.1.4 Corrosive Characteristic

C9 Corrosive

This category includes Federally RCRA regulated waste if the waste exhibits the characteristic of corrosivity as defined in 40 CFR 261 and is assigned the EPA hazardous waste code D002. More specific subcomponents of corrosivity to represent the LDR subcategories of acid, alkaline, and other are not included. The majority of waste that exhibits the characteristic of corrosivity will be acidic or basic aqueous liquids. These more specific corrosive characteristics are identified through assignment of the matrix category (see Section 4.1).

5.1.5 Reactive Characteristic

R9 Reactive

This category includes Federally RCRA regulated waste if the waste exhibits the characteristic of reactivity as defined in 40 CFR 261 and is assigned the EPA hazardous waste code D003. More specific subcomponents of reactivity to represent the LDR subcategories of reactive cyanides, reactive sulfides, reactive explosives, water reactives and other reactives are not included. These specific characteristics of reactivity are, in most cases, identified through assignment of the matrix category (see Sections 4.1 and 4.3).

5.2 TSCA (PCB) REGULATED PCBS

PCB TSCA

This category includes waste that is subject to TSCA regulation due to the presence of PCBs.

5.3 STATE REGULATED HAZARDOUS WASTE

ST State Regulated

This category includes waste that is defined as hazardous only under State regulations. Due to variations in the more stringent State regulations, this guidance does not propose a method of establishing more detailed contaminant categories based on State hazardous waste codes.

6. METHODOLOGY APPLICATION

This section provides some sample applications to demonstrate the treatability group assignment process. This section also provides examples of complete treatability group names.

6.1 SAMPLE APPLICATIONS

Example 1

Waste Data

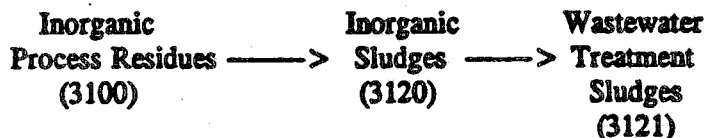
A waste stream is comprised of several 55 gallon drums containing waste from closure of a wastewater treatment facility. Physically, the waste is sludge consisting of metal hydroxide precipitates and water. On average, each drum contains over 90%, by volume, sludge.

Radiologically, the waste contains low-levels of miscellaneous fission products with exposure rates $< < 100$ mR/hr at drum surface. The waste contains transuranic isotopes $< < 10$ nCi/g. Sampling and analysis revealed the waste to contain levels of barium (D005), chromium (D007), and lead (D008) regulated by the EPA. The pH of the residual liquid was measured at 12.8 (D002). The waste is not PCB contaminated.

Parameter Category Assignments

Radiologically, the waste is low-level, contact-handled, and contains transuranic isotopes < 10 nCi/g. Referring to Section 3, the radiological category code for the waste is LL/CH/BG.

Referring to Section 4.1, the matrix characteristics meet the criteria for categorization as a process residue solid (Category 3000). The matrix characteristics further meet the criteria for assignment to the following successive subcategories associated with homogeneous solids:



Categorizing to the lowest level of detail, the matrix category is Wastewater Treatment Sludges.

Based on the EPA codes, the applicable components for defining the contaminant category are metals and corrosive. For metals, the most specific, applicable subcomponent is Metals Without Mercury (MET). Therefore, the contaminant category code for the waste is MET/C9.

Example 2

Waste Data

A waste stream is comprised of several 55 gallon drums containing "legacy" waste from past plutonium processing operations. Physically, each drum contains over 75% by volume of material meeting the LDR criteria for classification as debris. Available data indicates that, on average, each drum contains approximately 60% by volume combustible debris materials, such as plastic, paper and rags. On average,

the balance of each drum is approximately 20% by volume metal debris materials and 20% by volume vermiculite added as a drum filler.

Radiologically, the waste was considered transuranic when generated due to the presence of ≈ 80 nCi/g transuranic isotopes. Presently, however, the waste is considered low-level. The beta-gamma activity level is negligible. Based as process knowledge, the waste was assigned the F002 and D008 EPA codes. The waste is not PCB contaminated.

Parameter Category Assignment

Radiologically, the waste is low-level, contact-handled, and contains transuranic isotopes > 10 nCi/g. Referring to Section 3, the radiological parameter category code is LL/CH/TAL.

Referring to Section 4.1, the matrix characteristics meet the criteria for categorization as debris (Category 5000). The matrix characteristics further meet the criteria for assignment to the following successive subcategories associated with debris:

| | | |
|-----------------------------------|--------|--|
| Heterogeneous Debris (5400) | —————> | Predominantly Combustible Debris (5440) |
|-----------------------------------|--------|--|

Categorizing to the lowest level of detail, the matrix category is Predominantly Combustible Debris.

Based on the EPA codes, the applicable components for defining the contaminant category are organics and metals. For metals, the most specific, applicable subcomponent is Metals Without Mercury (MET). Therefore, the contaminant category code for the waste is ORG/MET.

6.2 EXAMPLE TREATABILITY GROUP NAMES

The complete treatability group name for a given waste is a combination of the applicable radiological, matrix, and contaminant categories as follows:

Radiological Category - Matrix Category - Contaminant Category

Following this logic, the complete treatability group names for the above two examples are:

Example 1: LL/CH/BG - Wastewater Treatment Sludges - MET/C9

Example 2: LL/CH/TAL - Predominantly Combustible Debris - ORG/MET

APPENDIX A

EPA CODES BY CONTAMINANT CATEGORY COMPONENTS

Table A-1. Nonhalogenated Toxicity Characteristic Organics

| EPA Code | Chemical Name |
|-----------------|----------------------|
| D018 | benzene |
| D023 | o-cresol |
| D024 | m-cresol |
| D025 | p-cresol |
| D026 | cresol |
| D030 | 2,4-dinitrotoluene |
| D035 | methyl ethyl ketone |
| D036 | nitrobenzene |
| D038 | pyridine |

Table A-2. Nonhalogenated Spent Solvents

| EPA Code | Chemical Name |
|-----------------|------------------------|
| F003 | Xylene |
| F003 | Acetone |
| F003 | Ethyl Acetate |
| F003 | Ethyl Benzene |
| F003 | Ethyl Ether |
| F003 | Methyl Isobutyl Ketone |
| F003 | n-Butyl Alcohol |
| F003 | Cyclohexanone |
| F003 | Methanol |
| F004 | Cresols |
| F004 | Cresylic Acid |
| F004 | Nitrobenzene |
| F005 | Toluene |
| F005 | Methyl Ethyl Ketone |
| F005 | Carbon Disulfide |
| F005 | Isobutanol |
| F005 | Pyridine |
| F005 | Benzene |
| F005 | 2-Ethoxyethanol |
| F005 | 2-Nitropropane |

Table A-3. Nonhalogenated P & U Listed Organics

| EPA Code | Chemical Name |
|----------|--------------------------------------|
| P001 | Warfarin (>0.3%) |
| P002 | 1-Acetyl-2-thiourea |
| P003 | Acrolein |
| P005 | Allyl alcohol |
| P007 | 5-Aminoethyl 3-isoxazolol |
| P008 | 4-Aminopyridine |
| P014 | Thiophenol (Benzene thiol) |
| P018 | Brucine |
| P020 | 2-sec-Butyl-4,6-dinitrophenol |
| P022 | Carbon Disulfide |
| P031 | Cyanogen |
| P034 | 2-Cyclohexyl-4,6-dinitrophenol |
| P038 | Diethylarsine |
| P039 | Disulfoton |
| P040 | Diethyl-p-pyrazinyl phosphorothioate |
| P041 | Diethyl-p nitrophenyl phosphate |
| P042 | Epinephrine |
| P044 | Dimethoate |
| P045 | Thiofanox |
| P046 | alpha, alpha-Dimethylphenethylamine |
| P047 | 4,6 Dinitrocresol |
| P048 | 2,4-Dinitrophenol |
| P049 | 2,4-Dithiobiuret |
| P054 | Aziridine |
| P062 | Hexaethyltetraphosphate |
| P064 | Isocyanic acid, ethyl ester |
| P066 | Methomyl |
| P067 | 2-Methylaziridine |
| P068 | Methyl hydrazine |
| P069 | Methylacetoneitrile |
| P070 | Aldicarb |
| P071 | Methyl parathion |
| P072 | 1-Naphthyl-2-thiourea |
| P075 | Nicotine and salts |
| P077 | p-Nitroaniline |
| P081 | Nitroglycerin |
| P082 | N-Nitrosodimethylamine |
| P084 | N-Nitrosomethylvinylamine |

Table A-3. Nonhalogenated P & U Listed Organics (Continued)

| EPA Code | Chemical Name |
|---------------------|-------------------------------|
| P085 | Octamethylpyrophosphoramide |
| P088 | Endothall |
| P089 | Parathion |
| P092 | Phenyl Mercury Acetate |
| P093 | N-Phenylthiourea |
| P094 | Phorate |
| P097 | Famphur |
| P101 | Ethyl cyanide |
| P102 | Propargyl alcohol |
| P108 | Strychnine and salts |
| P109 | Tetraethyldithiopyrophosphate |
| P110 | Tetraethyl Lead |
| P111 | Tetraethyl Pyrophosphate |
| P112 | Tetranitromethane |
| P116 | Thiosemicarbazide |
| U001 | Acetaldehyde |
| U002 | Acetone |
| U003 | Acetonitrile |
| U004 | Acetophenone |
| U007 | Acrylamide |
| U008 | Acrylic acid |
| U009 | Acrylonitrile |
| U010 | Mitomycin C |
| U011 | Amitrole |
| U012 | Aniline |
| U014 | Auramine |
| U015 | Azaserine |
| U016 | Benz (c) acridine |
| U018 | Benz(a)anthracene |
| U019 | Benzene |
| U021 | Benzidine |
| U022 | Benzo(a)pyrene |
| U028 | Bis(2-ethylhexyl) pthalate |
| U031 | n-Butyl alcohol |
| U050 | Chrysene |
| U051 | Creosote |
| U052 | Cresols (Cresylic acid) |
| U053 | Crtonaldehyde |

Table A-3. Nonhalogenated P & U Listed Organics (Continued)

| EPA Code | Chemical Name |
|-----------------|-------------------------------------|
| U055 | Cumene |
| U056 | Cyclohexane |
| U057 | Cyclohexanone |
| U059 | Daunomycin |
| U063 | Dibenzo(a,h)anthracene |
| U064 | 1,2,7,8-Dibenzopyrene |
| U069 | Di-n-butyl phthalate |
| U085 | 1,2,3,4-Diepoxybutane |
| U086 | N,N-Diethylhydrazine |
| U087 | O,O-Diethyl S-methyldithiophosphate |
| U088 | Diethyl phthalate |
| U089 | Diethyl stilbestrol |
| U090 | Dihydrosafrole |
| U091 | 3,3-Dimethoxybenzidine |
| U092 | Dimethylamine |
| U093 | p-Dimethylaminoazobenzene |
| U094 | 7,12-Dimethyl benz(a)anthracene |
| U095 | 3,3'-Dimethylbenzidine |
| U096 | a,a-Dimethyl benzyl hydroperoxide |
| U098 | 1,1-Dimethylhydrazine |
| U099 | 1,2-Dimethylhydrazine |
| U101 | 2,4-Dimethylphenol |
| U102 | Dimethyl phthalate |
| U103 | Dimethyl sulfate |
| U105 | 2,4-Dinitrotoluene |
| U106 | 2,6-Dinitrotoluene |
| U107 | Di-n-octyl phthalate |
| U108 | 1,4-Dioxane |
| U109 | 1,2-Diphenylhydrazine |
| U110 | Dipropylamine |
| U111 | Di-n-propylnitrosoamine |
| U112 | Ethyl acetate |
| U113 | Ethyl acrylate |
| U114 | Ethylene bis-dithiocarbamic acid |
| U116 | Ethylene Thiourea |
| U117 | Ethyl ether |
| U118 | Ethyl methacrylate |

Table A-3. Nonhalogenated P & U Listed Organics (Continued)

| EPA Code | Chemical Name |
|-------------|--------------------------------------|
| U119 | Ethyl methane sulfonate |
| U120 | Fluoranthene |
| U122 | Formaldehyde |
| U123 | Formic acid |
| U124 | Furan |
| U125 | Furfural |
| U126 | Glycidyaldehyde |
| U137 | Indeno(1,2,3-c,d)pyrene |
| U140 | Isobutyl alcohol |
| U141 | Isosafrole |
| U143 | Lasiocarpine |
| U144 | Lead acetate |
| U146 | Lead subacetate |
| U147 | Maleic anhydride |
| U148 | Maleic hydrazide |
| U149 | Malononitrile |
| U152 | Methacrylonitrile |
| U153 | Methane thiol |
| U154 | Methanol |
| U155 | Methapyrilene |
| U157 | 3-Methylchloanthrene |
| U159 | Methyl ethyl ketone |
| U160 | Methyl ethyl ketone peroxide |
| U161 | Methyl isobutyl ketone |
| U162 | Methyl methacrylate |
| U163 | N-Methyl N'-nitro N-Nitrosoguanidine |
| U164 | Methylthiouracil |
| U165 | Naphthalene |
| U166 | 1,4-Naphthoquinone |
| U167 | 1-Naphthylamine |
| U168 | 2-Napthylamine |
| U169 | Nitrobenzene |
| U170 | 4-Nitrophenol |
| U171 | 2-Nitropropane |
| U172 | n-Nitroso-di-n-butylamine |
| U173 | N-Nitroso-di-n-ethanolamine |
| U174 | N-Nitrosodiethylamine |

Table A-3. Nonhalogenated P & U Listed Organics (Continued)

| EPA Code | Chemical Name |
|-------------|----------------------------|
| U176 | N-Nitroso-N-ethylurea |
| U177 | N-Nitroso-N-methylurea |
| U178 | N-Nitroso-N-methylurethane |
| U179 | N-Nitrosopiperidine |
| U180 | N-Nitrosopyrrolidine |
| U181 | 5-Nitro-o-toluidine |
| U182 | Paraldehyde |
| U186 | 1,3-Pentadiene |
| U187 | Phenacetin |
| U188 | Phenol |
| U189 | Phosphorus sulfide |
| U190 | Phthalic anhydride |
| U191 | 2-Picoline |
| U193 | 1,3-Propane sultone |
| U194 | n-Propylamine |
| U196 | Pyridine |
| U197 | p-Benzoquinone |
| U200 | Reserpine |
| U201 | Resorcinol |
| U202 | Saccharin and salts |
| U203 | Safrole |
| U206 | Streptozatocin |
| U213 | Tetrahydrofuran |
| U214 | Thallium (I) acetate |
| U218 | Thioacetamide |
| U219 | Thiourea |
| U220 | Toluene |
| U221 | Toluenediamine |
| U223 | Toluene diisocyanate |
| U234 | sym-Trinitrobenzene |
| U236 | Trypan Blue |
| U238 | Ethyl carbamate |
| U239 | Xylenes |
| U244 | Thiram |
| U248 | Warfarin ($\geq 3\%$) |
| U328 | Benzenamine, 2-methyl |
| U353 | Benzenamine, 4-methyl |
| U359 | 2-ethoxyethanol |

Table A-4. Halogenated Toxicity Characteristic Pesticides

| EPA Code | Chemical Name |
|-----------------|----------------------|
| D012 | Endrin |
| D013 | Lindane |
| D014 | Methoxychlor |
| D015 | Toxaphene |
| D016 | 2,4-D |
| D017 | Silvex |

Table A-5. Halogenated Toxicity Characteristic Organics

| EPA Code | Chemical Name |
|-----------------|-----------------------|
| D019 | Carbon tetrachloride |
| D020 | Chlordane |
| D021 | Chlorobenzene |
| D022 | Chloroform |
| D027 | 1,4-dichlorobenzene |
| D028 | 1,2-dichloroethane |
| D029 | 1,1-dichloroethylene |
| D031 | Heptachlor |
| D032 | Hexachlorobenzene |
| D033 | Hexachlorobutadiene |
| D034 | Hexachloroethane |
| D037 | Pentachlorophenol |
| D039 | Tetrachloroethylene |
| D040 | Trichloroethylene |
| D041 | 2,4,5-trichlorophenol |
| D042 | 2,4,6-trichlorophenol |
| D043 | Vinyl Chloride |

Table A-6. Halogenated Spent Solvents

| EPA Code | Chemical Name |
|----------|---------------------------------------|
| F001 | Tetrachloroethylene |
| F001 | Trichloroethylene |
| F001 | Methylene Chloride |
| F001 | 1,1,1-trichloroethane |
| F001 | Carbon Tetrachloride |
| F002 | 1,1,1-trichloroethane |
| F002 | Methylene Chloride |
| F002 | Trichloroethylene |
| F002 | Tetrachloroethylene |
| F002 | Chlorobenzene |
| F002 | 1,1,2-trichloro-1,2,2-trifluoroethane |
| F002 | Ortho-dichlorobenzene |
| F002 | Trichlorofluoromethane |
| F002 | 1,1,2-trichloroethane |

Table A-7. Halogenated Dioxins

| EPA Code | Chemical Name |
|----------|--|
| F020 | Tetra- and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodi-benzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts |
| F021 | penta- and hexachlorodibenzo-p-dioxins; penta- and hexachlorodibenzofurans; pentachlorophenol and its derivatives |
| F022 | tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans |
| F023 | tetra-, and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts |
| F024 | Numerous chlorinated hydrocarbons; benzene; toluene; naphthalene |
| F025 | Numerous chlorinated hydrocarbons; benzene; toluene; naphthalene |
| F026 | tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans |
| F027 | tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts |
| F028 | tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts |

Table A-8. Halogenated P & U Listed Organics

| EPA Code | Chemical Name |
|---------------------|---------------------------------|
| P004 | Aldrin |
| P016 | Bis(chloromethyl)-ether |
| P017 | Bromoacetone |
| P023 | Chloroacetaldehyde |
| P024 | p-Chloroaniline |
| P026 | 1-(o-Chlorophenyl) thiourea |
| P027 | 3-Chloro-propionitrile |
| P028 | Benzyl chloride |
| P033 | Cyanogen Chloride |
| P036 | Dichloro-phenylarsine |
| P037 | Dieldrin |
| P043 | Diisopropylfluorophosphate(DFP) |
| P050 | Endosulfan |
| P051 | Endrin |
| P057 | Fluoroacetamide |
| P058 | Fluoroacetic acid, sodium salt |
| P059 | Heptachlor |
| P060 | Isodrin |
| P095 | Phosgene |
| P118 | Trichloromethanethiol |
| P123 | Toxaphene |
| U005 | 2-Acetylaminofluorene |
| U006 | Acetyl Chloride |
| U017 | Benzal chloride |
| U020 | Benzenesulfonyl chloride |
| U023 | Benzotrichloride |
| U024 | bis(2-Chloroethoxy) methane |
| U025 | bis(2-Chloroethyl) ether |
| U026 | Chlornaphazin |
| U027 | bis(2-Chloroisopropyl) ether |
| U029 | Bromomethane |
| U030 | 4-Bromophenyl phenyl ether |
| U033 | Carbonyl fluoride |
| U034 | Trichloroacetaldehyde |
| U035 | Chlorambucil |
| U036 | Chlordane (alpha and gamma) |
| U037 | Chlorobenzene |
| U038 | Chlorobenzilate |

Table A-8. Halogenated P & U Listed Organics (Continued)

| EPA Code | Chemical Name |
|-------------|------------------------------------|
| U039 | p-Chloro-m-cresol |
| U041 | 1-Chloro-2,3-epoxypropane |
| U042 | 2-Chloro ethyl vinyl ether |
| U043 | Vinyl chloride |
| U044 | Chloroform |
| U045 | Chloromethane |
| U046 | Chloromethyl methyl ether |
| U047 | 2-Chloronaphthalene |
| U048 | 2-Chlorophenol |
| U049 | 4-Chloro-o-toluidine hydrochloride |
| U058 | Cyclophosphamide |
| U060 | DDD |
| U061 | DDT |
| U062 | Diallate |
| U066 | 1,2-Dibromo-3-chloropropane |
| U067 | 1,2-Dibromoethane |
| U068 | Dibromomethane |
| U070 | o-Dichlorobenzene |
| U071 | m-Dichlorobenzene |
| U072 | p-Dichlorobenzene |
| U073 | 3,3-Dichlorobenzidine |
| U074 | cis-1,4-Dichloro-2-butene |
| U075 | Dichlorodifluoromethane |
| U076 | 1,1-Dichloroethane |
| U077 | 1,2-Dichloroethane |
| U078 | 1,1-Dichloroethylene |
| U079 | 1,2-Dichloroethylene |
| U080 | Methylene chloride |
| U081 | 2,4-Dichlorophenol |
| U082 | 2,6-Dichlorophenol |
| U083 | 1,2-Dichloropropane |
| U084 | 1,3-Dichloropropene |
| U097 | Dimethylcarbomyl chloride |
| U121 | Trichloromonofluoromethane |
| U127 | Hexachlorobenzene |
| U128 | Hexachlorobutadiene |
| U129 | Lindane |
| U130 | Hexachlorocyclopentadiene |

Table A-8. Halogenated P & U Listed Organics (Continued)

| EPA Code | Chemical Name |
|-------------|--------------------------------------|
| U131 | Hexachloroethane |
| U132 | Hexachlorophene |
| U138 | Iodomethane |
| U142 | Kepone |
| U150 | Melphalan |
| U156 | Methyl chlorocarbonate |
| U158 | 4,4'-Methylene-bis-(2-chloroaniline) |
| U183 | Pentachlorobenzene |
| U184 | Pentachloropethane |
| U185 | Pentachloronitrobenzene |
| U192 | Pronamide |
| U207 | 1,2,4,5-Tetrachlorobenzene |
| U208 | 1,1,1,2-Tetrachloroethane |
| U209 | 1,1,2,2-Tetrachloroethane |
| U210 | Tetrachlorethylene |
| U211 | Carbon tetrachloride |
| U222 | o-Toluidine hydrochloride |
| U225 | Tribromomethane |
| U226 | 1,1,1-Trichloroethane |
| U227 | 1,1,2-Trichloroethane |
| U228 | Trichloroethylene |
| U235 | tris-(2,3-Dibromopropyl)-phosphate |
| U237 | Uracil mustard |
| U240 | 2,4-Dichlorophenoxyacetic acid |
| U243 | Hexachloropropene |
| U246 | Cyanogen Bromide |
| U247 | Methoxychlor |

Table A-9. Toxicity Characteristic Metals Without Mercury

| EPA Code | Regulated Metals |
|-----------------|-------------------------|
| D004 | Arsenic |
| D005 | Barium |
| D006 | Cadmium |
| D007 | Chromium |
| D008 | Lead |
| D010 | Selenium |
| D011 | Silver |

Table A-10. Plating Waste Metals Without Mercury

| EPA Code | Regulated Metal |
|-----------------|---|
| F006 | Cadmium, Chromium, Lead, Nickel, Silver |
| F007 | Cadmium, Chromium, Lead, Nickel, Silver |
| F008 | Cadmium, Chromium, Lead, Nickel, Silver |
| F009 | Cadmium, Chromium, Lead, Nickel, Silver |

Table A-11. P & U Listed Waste - Metals Without Mercury

| EPA Code | Chemical Name | Regulated Metal |
|-----------------|--------------------------|------------------------|
| P010 | Arsenic acid | Arsenic |
| P011 | Arsenic pentoxide | Arsenic |
| P012 | Arsenic trioxide | Arsenic |
| P013 | Barium cyanide | Barium |
| P015 | Beryllium dust | Beryllium |
| P036 | Dichloro-phenylarsine | Arsenic |
| P038 | Diethylarsine | Arsenic |
| P073 | Nickel Carbonyl | Nickel |
| P087 | Osmium tetroxide | Osmium Tetroxide |
| P099 | Potassium silver cyanide | Silver |
| P103 | Selenourea | Selenium |
| P104 | Silver cyanide | Silver |
| P110 | Tetraethyl Lead | Lead |
| P113 | Thallic oxide | Thallium |
| P114 | Thallium selenite | Selenium |
| P115 | Thallium (I) sulfate | Thallium |
| P119 | Ammonia vanadate | Vanadium |
| P120 | Vanadium petoxide | Vanadium |
| U032 | Calcium chromate | Chromium |
| U136 | Cacodylic acid | Arsenic |
| U144 | Lead acetate | Lead |
| U145 | Lead phosphate | Lead |
| U146 | Lead subacetate | Lead |
| U204 | Selenium dioxide | Selenium |
| U205 | Selenium sulfide | Selenium |
| U215 | Thallium (I) Carbonate | Thallium |
| U216 | Thallium (I) Chloride | Thallium |
| U214 | Thallium (I) acetate | Thallium |
| U217 | Thallium (I) nitrate | Thallium |

Table A-12. Mercury EPA Codes

| EPA Code | Chemical Name |
|-----------------|------------------------|
| D009 | Mercury |
| P065 | Mercury Fulminate |
| P092 | Phenyl Mercury Acetate |
| U151 | Mercury |

Table A-13. Listed EPA Codes - Cyanides

| EPA Code | Chemical Name |
|-----------------|-------------------------------------|
| F006 | Plating Wastes |
| F007 | Plating Wastes |
| F008 | Plating Wastes |
| F009 | Plating Wastes |
| P013 | Barium cyanide |
| P021 | Calcium Cyanide |
| P029 | Copper cyanide |
| P030 | Cyanides (soluble salts, complexes) |
| P063 | Hydrogen cyanide |
| P074 | Nickel cyanide |
| P098 | Potassium cyanide |
| P099 | Potassium silver cyanide |
| P104 | Silver cyanide |
| P106 | Sodium cyanide |
| P121 | Zinc cyanide |

APPENDIX D

APPENDIX D NON RADIONUCLIDE INVENTORY DATA SUMMARY

This Appendix presents a summary of the IDCs used in this report from the Non Radionuclide Inventory Database. The appendix is divided into two sections. The first section presents data for the IDCs used for solidified waste streams and the second section presents data for the IDCs used for heterogeneous and soil waste streams.

This appendix contains a summary of the data and does not present details on individual elements or chemical compounds which were listed for some IDCs. Instead this data presents data for chemical forms such as inorganics, organics, etc.

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SUMMARY OF NON RADIONUCLIDE INVENTORY DATA
FOR ARGONNE NATIONAL LABORATORY - EAST

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Non Radionuclide Inventory Data

Waste Form Description: COMBUSTIBLE WASTE (DDW >75% COMBUSTIBLE SOLIDS)

SITE: Argonne National Laboratory - East

Generator: AE

Storage Site: ID

IDC : 120

Container Type: SWB

Container Volume: 1.9 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 300 | 450 | 680 |
| GLASS | | 5 | 20 |
| METALS | | 70 | 120 |

Non Radionuclide Inventory Data

Waste Form Description: COMBUSTIBLE WASTE (DDW >75% NONCOMBUSTIBLE SOLI

SITE: Argonne National Laboratory - East

Generator: AE

Storage Site: ID

IDC : 121

Container Type: SWB

Container Volume: 1.9 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 50 | 120 | 230 |
| FILTER MEDIA | | 4 | 8 |
| GLASS | | 50 | 160 |
| INORGANICS | | 10 | 100 |
| METALS | 400 | 500 | 700 |

Non Radionuclide Inventory Data

Waste Form Description: COMBUSTIBLE WASTE (RGW >75% COMBUSTIBLE SOLIDS)

SITE: Argonne National Laboratory - East

Generator: AE

Storage Site: ID

IDC: 110

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 30 | 68 | 90 |
| GLASS | | 1 | 4 |
| METALS | | 1 | 3 |

Non Radionuclide Inventory Data

Waste Form Description: SOLIDIFIED LABORATORY WASTE (ABSORBED LIQUIDS)

SITE: Argonne National Laboratory - East

Generator: AE

Storage Site: ID

IDC : 131

Container Type: DRUM

Container Volume: 0.208 m³

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANIC SOLIDS | 21 | 21 | 21 |
| SLUDGES/LIQUIDS | 56 | 66 | 75 |

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SUMMARY OF NON RADIONUCLIDE INVENTORY DATA
FOR IDAHO NATIONAL ENGINEERING LABORATORY

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Non Radionuclide Inventory Data

Waste Form Description: METAL WASTE - (70-72)UNLEACHED LIGHT NON-SS (Fe,Cu,A

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC : 480

Container Type: DRUM

Container Volume: 0.222 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 5 | 15 |
| GLASS | | 0.5 | |
| INORGANICS | | 6 | |
| METALS | | 68.5 | |
| ORGANICS | | 0.001 | 0.6 |

Non Radionuclide Inventory Data

Waste Form Description: SOLID INORGANIC WASTE - ('70-'72) FIREBRICK

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 371

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 10 | |
| INORGANICS | | 119 | |
| ORGANICS | | 0.0005 | 0.005 |

Non Radionuclide Inventory Data

Waste Form Description: PYROCHEMICAL SALT WASTE - (72>) ELECTROREFINING SA

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 411

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|---------------------------|-----------------------|-----------------------|-----------------------|
| ELEMENTS/COMPOUNDS | | 17.3 | |
| INORGANICS | | 4 | |

Non Radionuclide Inventory Data

Waste Form Description: LEADED RUBBER GLOVES AND APRONS (72>)

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 339

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 12 | 60 | 105 |
| INORGANICS | 1 | 6 | 15 |
| METALS | 12 | 53 | 105 |

Non Radionuclide Inventory Data

Waste Form Description: SOLID ORGANIC WASTE - (<72)BENELEX AND PLEXIGLAS

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 302

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 70 | |
| GLASS | | 5 | |
| INORGANICS | | 13 | |
| METALS | | 2 | |

Non Radionuclide Inventory Data

Waste Form Description: FILTER WASTE - (70-72)ABSOLUTE FILTERS

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 335

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| FILTERS | 10 | 33 | 100 |
| INORGANICS | | 2 | 4 |
| ORGANICS | | 0.005 | 0.042 |

Non Radionuclide Inventory Data

Waste Form Description: FILTER WASTE - (70-'72)CWS FILTERS

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 490

Container Type: DRUM

Container Volume: 0.228 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 2 | |
| FILTERS | | 49 | |
| INORGANIC COMPOUND | | 4 | 6 |
| ORGANICS | | 0.025 | 0.064 |

Non Radionuclide Inventory Data

Waste Form Description: GRAPHITE WASTE - MOLDS (<72 FNDRY)

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC : 300

Container Type: DRUM

Container Volume: 0.213 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| GRAPHITE | 10 | 71 | 170 |
| INORGANIC SOLIDS | | 6 | |
| ORGANICS | | 0.001 | 0.012 |

Non Radionuclide Inventory Data

Waste Form Description: GLASS WASTE - GLASS (70-72)

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 440

Container Type: DRUM

Container Volume: 0.227 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 5 | |
| GLASS | | 63 | |
| INORGANICS | | 3 | |
| ORGANICS | | 0.00001 | |

Non Radionuclide Inventory Data

Waste Form Description: SOLID INORGANIC WASTE - ('70-'72)LECO CRUCIBLES

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC : 370

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANICS | 10 | 110 | 260 |

Non Radionuclide Inventory Data

Waste Form Description: GRAPHITE WASTE - (72>)SCARFED CHUNKS

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 303

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------------|-----------------------|-----------------------|-----------------------|
| GRAPHITE | 8 | 67 | 87 |
| INORGANICS | | 6 | |

Non Radionuclide Inventory Data

Waste Form Description: HEAVY NON-SPECIAL SOURCE METALS (<72 - FOUNDRY)

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC : 320

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANICS | | 4 | |
| METALS | 10 | 58 | 220 |

Non Radionuclide Inventory Data

Waste Form Description: FILTER WASTE - (72>) PROCESSED FILTER MEDIA

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 376

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 3 | 8 |
| FILTERS | 5 | 38 | 110 |
| INORGANICS | | 15 | 25 |
| METALS | | 1 | 5 |
| ORGANICS | | 0.00016 | 0.092 |

Non Radionuclide Inventory Data

Waste Form Description: ORGANIC SOLID WASTE - (70-72) BLACKTOP, CONCRETE, SA

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC : 374

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 5 | |
| INORGANICS | 20 | 135 | 300 |
| ORGANICS | | 0.000495 | 0.18 |

Non Radionuclide Inventory Data

Waste Form Description: SOLID INORGANIC WASTE - (72>) OIL-DRI

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC : 375

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 8 | |
| INORGANICS | 45 | 116 | 200 |
| METALS | | 1 | |
| ORGANICS | | 0.5 | 13.5 |

Non Radionuclide Inventory Data

Waste Form Description: SOLID INORGANIC WASTE - (72>) FIREBRICK, COARSE

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC : 377

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 20 | |
| INORGANICS | 45 | 56 | 67 |

Non Radionuclide Inventory Data

Waste Form Description: GRAPHITE WASTE - COARSE (72>)

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 312

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| GRAPHITE | 6 | 55 | 70 |
| INORGANICS | | 6 | |
| ORGANICS | | 0.001 | 0.0035 |

Non Radionuclide Inventory Data

Waste Form Description: SOLIDIFIED SOLUTIONS (1973-'79)

SITE: Idaho National Engineering Laboratory

Generator: BC

Storage Site: ID

IDC: 204

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANICS | | 115.7 | |
| SLUDGES/LIQUIDS | | 113.6 | |

Non Radionuclide Inventory Data

Waste Form Description: HIGH LEVEL SLUDGE/CEMENT (1972>)

SITE: Idaho National Engineering Laboratory

Generator: MD

Storage Site: ID

IDC : 836

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------------|-----------------------|-----------------------|-----------------------|
| COMBUSTIBLES | | 11.9 | |
| SLUDGES/LIQUIDS | | 119.2 | |

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SUMMARY OF NON RADIONUCLIDE INVENTORY DATA
FOR LOS ALAMOS NATIONAL LABORATORY

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Non Radionuclide Inventory Data

Waste Form Description: METAL WASTE - NONCOMBUSTIBLES (DRUM)

SITE: Los Alamos National Laboratory

Generator: LA

Storage Site: LA

IDC: 005

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 3 | 24.6 | 50 |
| GLASS | | 0.1 | 1 |
| GRAPHITE | | 0.0005 | 0.1 |
| METALS | 50 | 56 | 205 |

Non Radionuclide Inventory Data

Waste Form Description: MIXED METAL SCRAP AND INCIDENTAL COMBUSTIBLES (S

SITE: Los Alamos National Laboratory

Generator: LA

Storage Site: LA

IDC : 001

Container Type: SWB

Container Volume: 1.9 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 500 | 524 | 580 |
| FILTERS | | 12 | |
| GLASS | | 40 | |
| METALS | | 2757.2 | |

Non Radionuclide Inventory Data

Waste Form Description: CEMENTED AQUEOUS WASTE

SITE: Los Alamos National Laboratory

Generator: LA

Storage Site: LA

IDC: 002

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANIC SOLIDS | 130 | 130 | 130 |
| SLUDGES/LIQUIDS | 250 | 260 | 265 |

Non Radionuclide Inventory Data

Waste Form Description: DEWATERED SLUDGE - SOLIDIFIED AQUEOUS WASTE

SITE: Los Alamos National Laboratory

Generator: LA

Storage Site: LA

IDC: 003

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANIC SOLIDS | 8 | 9 | 10 |
| SLUDGES/LIQUIDS | 150 | 200 | 220 |

Non Radionuclide Inventory Data

Waste Form Description: CEMENTED PROCESS RESIDUES

SITE: Los Alamos National Laboratory

Generator: LA

Storage Site: LA

IDC: 006

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 2.2 | 15 |
| GLASS | | 0.9 | |
| INORGANIC SOLIDS | | 160 | |
| ORGANICS | | 4.06 | |
| SLUDGES/LIQUIDS | | 88 | |

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SUMMARY OF NON RADIONUCLIDE INVENTORY DATA
FOR MOUND

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Non Radionuclide Inventory Data

Waste Form Description: COMBUSTIBLE WASTE

SITE: Mound

Generator: MD

Storage Site: ID

IDC : 827

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 33 | 57 | 147 |
| FILTERS | | 0.6 | 0.6 |
| INORGANICS | | 2 | 3 |
| METALS | | 0.05 | 0.05 |

Non Radionuclide Inventory Data

Waste Form Description: NON-COMBUSTIBLE TRU WASTE

SITE: Mound

Generator: MD

Storage Site: ID

IDC : 824

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 1 | 1 |
| GLASS | | 5 | 10 |
| METALS | 45 | 91 | 159 |

Non Radionuclide Inventory Data

Waste Form Description: SOIL

SITE: Mound

Generator: MD

Storage Site: ID

IDC: 842

Container Type: BOX

Container Volume: 4.205 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 3 | 3 |
| INORGANICS | 1943 | 2398 | 2852 |
| METALS | | 3 | 3 |
| ORGANICS | | 0.1 | 1 |

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SUMMARY OF NON RADIONUCLIDE INVENTORY DATA
FOR OAK RIDGE NATIONAL LABORATORY

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Non Radionuclide Inventory Data

Waste Form Description: SOLID WASTE - LABORATORY TYPE WASTE

SITE: Oak Ridge National Laboratory

Generator: OR

Storage Site: OR

IDC: 001

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 30 | 62 |
| FILTERS | | 0.5 | 5 |
| GLASS | | 10 | 125 |
| METALS | | 20 | 340 |

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SUMMARY OF NON RADIONUCLIDE INVENTORY DATA
FOR ROCKY FLATS PLANT

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Non Radionuclide Inventory Data

Waste Form Description: GRAPHITE WASTE - MOLDS

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 300

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------------|-----------------------|-----------------------|-----------------------|
| GRAPHITE | 8 | 67 | 87 |

Non Radionuclide Inventory Data

Waste Form Description: GRAPHITE WASTE - SCARFED CHUNKS

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 303

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| GRAPHITE | 8 | 67 | 87 |

Non Radionuclide Inventory Data

Waste Form Description: COMBUSTIBLE WASTE - DRY DRUM

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC: 831

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 22 | 164 | 200 |
| INORGANICS | | 0.6 | 1.5 |
| ORGANICS | | 0.0023 | 1 |

Non Radionuclide Inventory Data

Waste Form Description: COMBUSTIBLE WASTE - WET DRUM

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC: 832

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 6 | 164 | 200 |
| INORGANICS | | 0.6 | 1.5 |
| ORGANICS | | 0.0023 | 1 |

Non Radionuclide Inventory Data

Waste Form Description: COMBUSTIBLE WASTE - PLASTICS DRUM

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 833

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 18 | 164 | 200 |
| INORGANICS | | 0.5 | 1 |
| ORGANICS | | 0.0023 | 1 |

Non Radionuclide Inventory Data

Waste Form Description: METAL WASTE - LEAD

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 321

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| METALS | 16 | 63 | 190 |

Non Radionuclide Inventory Data

Waste Form Description: GLASS WASTE - RASCHIG RINGS DRUM

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 442

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| GLASS | 25 | 200 | 220 |
| INORGANICS | | 0.5 | 1 |

Non Radionuclide Inventory Data

Waste Form Description: SOLID INORGANIC WASTE - INSULATION

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC: 438

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 0.25 | 1 | 2 |
| GLASS | 5 | 40 | 60 |
| INORGANICS | | 0.5 | 1 |

Non Radionuclide Inventory Data

Waste Form Description: PYROCHEMICAL SALT WASTE - SPENT SALT

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 429

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------|----------------|----------------|----------------|
| ELEMENTS/COMPOUNDS | 10 | 45 | 118 |
| METALS | 0.1 | 2.5 | 3 |

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Non Radionuclide Inventory Data

Waste Form Description: PYROCHEMICAL SALT WASTE - DIRECT OXIDE REDUCTION

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC: 454

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------|----------------|----------------|----------------|
| ELEMENTS/COMPOUNDS | 10 | 45 | 118 |
| METALS | 1 | 2.5 | 3 |

Non Radionuclide Inventory Data

Waste Form Description: SOLIDIFIED AQUEOUS WASTE

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC: 800

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANIC SOLIDS | 36 | 82 | 110 |
| SLUDGES/LIQUIDS | 36 | 83 | 110 |

Non Radionuclide Inventory Data

Waste Form Description: SOLIDIFIED AQUEOUS WASTE

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 803

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kp/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANIC SOLIDS | 47 | 69 | 81 |
| SLUDGES/LIQUIDS | 47 | 69 | 81 |

Non Radionuclide Inventory Data

Waste Form Description: SOLIDIFIED AQUEOUS WASTE

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 807

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------------|-----------------------|-----------------------|-----------------------|
| INORGANIC SOLIDS | 36 | 82 | 110 |
| SLUDGES/LIQUIDS | 36 | 83 | 110 |

Non Radionuclide Inventory Data

Waste Form Description: SOLIDIFIED ORGANIC WASTE

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC: 801

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANIC SOLIDS | 35 | 91 | 112 |
| SLUDGES/LIQUIDS | 38 | 101 | 124 |

Non Radionuclide Inventory Data

Waste Form Description: SOLIDIFIED LABORATORY WASTE

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC: 802

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------------|-----------------------|-----------------------|-----------------------|
| INORGANIC SOLIDS | 65 | 150 | 177 |
| SLUDGES/LIQUIDS | 43 | 100 | 118 |

Non Radionuclide Inventory Data

Waste Form Description: CEMENTED INORGANIC PROCESS SOLIDS

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 806

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|---------------------|----------------|----------------|----------------|
| INORGANIC SOLIDS | 6 | 46 | 72 |
| INORGANICS | | 28.7 | 150.5 |
| ION EXCHANGE RESINS | | 7.3 | 100 |
| SLUDGES/LIQUIDS | 36 | 48 | 96 |

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SUMMARY OF NON RADIONUCLIDE INVENTORY DATA
FOR RICHLAND HANFORD

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Non Radionuclide Inventory Data

Waste Form Description: MISCELLANEOUS SOLID WASTE

SITE: Richland Hanford

Generator: RH

Storage Site: RH

IDC: 001

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 5 | 20 |
| ELEMENTS/COMPOUNDS | | 0.001 | 0.005 |
| GLASS | | 0.2 | 1 |
| INORGANICS | | 10 | 20 |
| METALS | | 24 | 50 |

Non Radionuclide Inventory Data

Waste Form Description: ABSORBED ORGANICS -- COMPOSITE

SITE: Richland Hanford

Generator: RH

Storage Site: RH

IDC: 004

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANIC SOLIDS | | 5.6 | |
| SLUDGES/LIQUIDS | | 10 | |

APPENDIX E

APPENDIX E

WASTE STREAM PROFILES

FOOTNOTES FOR THE WASTE STREAM PROFILES

1. Liquid waste streams are assumed to be solidified prior to sending to WIPP. A volume conversion of 2.5:1 is assumed for solidification.
2. WMCs 3000, 3900, 9100, and 9200 are placed in "solidified inorganic waste," "salt waste," or "solidified organic waste," depending on the information provided in the MWIR.
3. Particulate waste streams are assumed to be solidified prior to sending to WIPP. A volume conversion of 2.5:1 is assumed for solidifying particulate waste.
4. WMCs 6100 and 6190 are placed in "solidified organic waste," or "solidified inorganic waste," depending on the information provided in MWIR. Volume conversion is described in footnote 5.
5. Liquid lab pack waste is assumed to be solidified prior to sending to WIPP. It is assumed that the packing material in lab packs will be low-level waste when the liquid containers are removed. A volume conversion of 2.5:1 is assumed for solidification.
6. In error, mixed-residues were not reported in the MWIR for this waste stream (per verbal discussions with Rocky Flats Plant). Mixed residues were added as follows (GAO, 1992):
 - Incinerator Ash (IDCs 419, 420, 421, 425)
 - stored volume - 234 m³
 - projected volume - 0 m³
 - stored volume (to meet criticality and WIPP WAC requirements) - 1202 m³
7. WMCs 6200 and 6290 are placed in "solidified inorganic waste," "solidified inorganic waste," or "heterogeneous waste" if the waste stream must be solidified. They are placed in "unspecified metal waste," or "lead/cadmium metal waste" if they are primarily nonreactive metal contaminated with reactive metal. Reactive waste streams must be treated prior to shipment to WIPP.
8. Waste stream is assumed to be treated prior to shipment to WIPP. Volume change is dependent of the waste stream and treatment.
9. WMC 5000 is placed in "unspecified metal waste," "lead/cadmium metal waste," "inorganic nonmetal waste," "combustible waste," "graphite waste," "heterogeneous waste," or "filter waste," depending on the information in MWIR.
10. WMC 7000 and 9300 are placed in "unspecified metal waste" or "lead/cadmium metal waste," depending on the information in MWIR.
11. WMCs 7400, 7410, 7420, and 7490 are assumed to be drained of liquid and contain only metal waste.
12. These waste streams are excluded from disposal in WIPP at this time.
13. Adequate information is provided in MWIR to change the WMC from "unknown" to a more descriptive WMC. If there is not enough information in MWIR, these waste streams remain as "unknown" and are excluded from disposal in WIPP until characterized.

14. The TRU (non-mixed) volume and classification information were taken from the Phase I MWIR.
15. THESE ARE NOT ACTUAL SITE-GENERATED WASTE STREAMS. The TRU (non-mixed) volume was calculated from the difference between the 1993 IDB and the MWIR (Phase II). These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major TRU mixed streams.
16. The amount of steel in the container represents the drum only. The amount of metal in the disposal canister and plug is provided in the Section 5.
17. IDC was changed/assigned for the purposes of this report per the methodology described in Appendix J.
18. The Waste Matrix Code Grouping and/or IDC were assigned based on the distribution of the TRU-Mixed Waste from this site.
19. WMC was changed to be consistent with similar waste streams.
20. This TRU waste stream is classified as "unknown" because there was not adequate information available at the time of publication of this report to classify the waste stream. It is anticipated that characterization information can be generated by the site.
21. Insufficient information is available to determine the appropriate TRUCON code.
22. Insufficient information is available to determine the appropriate NMVP code.
23. Insufficient information is available to determine the Part B category.
24. This waste stream includes residues. The volume of the residue portion of this waste stream is consistent with the volumes reported by Rocky Flats Plant in their "ship as waste" residue scenarios, repackaged/processed to meet criticality and WIPP WAC requirements only (GAO, 1992).
25. The site IDC is not listed in TRUCON. The TRUCON and NMVP codes were assigned based on the TRUCON codes provided in the MWIR (Phase II).
26. There is not adequate information in MWIR to define this waste stream. It will remain in the "unknown" category and will be excluded from disposal in WIPP until characterized.
27. Part B codes are not applicable for non-mixed waste.

WASTE STREAM PROFILES

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | AE-T01 | HANDLING | CH | FIELD OFFICE | Chicago |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | AE-131 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 17 |
| Projected | 142 |
| Total | 160 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | 461.54 | 418.27 | 370.19 |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 27

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | AE-T02 | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Unspecified Metal Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-321 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 0 |
| Projected | 48 |
| Total | 48 |

| <u>WASTE PARAMETERS (kg/m3)</u> | | <u>Max</u> | <u>Avg</u> | <u>Min</u> |
|---------------------------------|------------------------------|------------|------------|------------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

29-Jun-94

| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|---------|
| DATABASE WS ID | AE-T03 | HANDLING | CH | FIELD OFFICE | Chicago |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Unspecified Metal Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | RF-321 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 4 |
| Projected | 36 |
| Total | 40 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|----------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | AE-W038 | HANDLING | CH | FIELD OFFICE | Chicago |
| WS NAME | MTRU Acidic Wastewater | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 6120 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | AE-131 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 3 |
| Projected | 2 |
| Total | 5 |

EPA CODE(s)

| |
|-------|
| D004A |
| D002B |
| D006A |

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|----------------------------|------------------|--------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Organic Matrix | | | |
| Solidified | Inorganic Matrix | 461.54 | 418.27 | 370.19 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 5, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | | |
|---------------------------------------|------------------------|--------------------------|--------------------------------|------------------------|---------------------|---------|
| DATABASE WS ID | AE-W039 | | HANDLING | CH | FIELD OFFICE | Chicago |
| WS NAME | MTRU Organic Resins | | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | | |
| WASTE MATRIX CODE | - Site | 3212 | WIPP PART B APPLICATION | Information Incomplete | | |
| | - Group | Solidified Organic Waste | TRUCON | Information Incomplete | | |

Site Not Reported
Assigned RF-806.1

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

D006A

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 2012.02 | 625.00 | 164.90 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 21, 22, 23

29-Jun-94

| | | | | | |
|--------------------------------|--------------------------------------|-------------------------|------------------------|------------------------|---------|
| DATABASE WS ID | AE-W040 | HANDLING | CH | FIELD OFFICE | Chicago |
| WS NAME | MTRU Evaporator Concentrator Sludges | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3121 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete | |

| | |
|----------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | RF-800 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| D009A |
| D007A |
| D006A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| | | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

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| | | | |
|---------------------------------------|------------------------|--------------------------|--------------------------------|
| DATABASE WS ID | AE-W041 | | |
| WS NAME | MTRU Elemental Lead | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | |
| WASTE MATRIX CODE | - Site | 7210 | WIPP PART B APPLICATION |
| | - Group | Lead/Cadmium Metal Waste | Information Incomplete |
| | | TRUCON | Information Incomplete |
| HANDLING | CH | FIELD OFFICE | Chicago |

Site Not Reported

Assigned RF-321

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 1 |
| Total | 1 |

EPA CODE(s)

D008C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|---------------------------------|------------------------------|------------|------------|------------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

29-Jun-94

| | | | | | |
|---------------------------------------|------------------------|--------------------------|--------------------------------|------------------------|---------|
| DATABASE WS ID | AE-W042 | HANDLING | CH | FIELD OFFICE | Chicago |
| WS NAME | MTRU Cadmium Waste | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5130 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-480 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | | | |
| | Celulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | | |
|--------------------------------|--|----------------------------|-------------------------|------------------------|------------------------|---------|
| DATABASE WS ID | AL-W005 | | HANDLING | CH | FIELD OFFICE | Chicago |
| WS NAME | MIXED TRANSURANICS/URANIUM IN GLOVEBOX | | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | | |
| WASTE MATRIX CODE | - Site | 1000 | WIPP PART B APPLICATION | Information Incomplete | | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete | |

Site **IDC's** Glovebox
Assigned RF-800

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| D006A |
| D007A |
| D002B |
| D004A |
| D011A |
| D008A |
| D010A |
| D005A |

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|---------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Organic Matrix | | | |
| Solidified | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 2, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---------------------------------|--------------------------|--------------------------------|------------------------|---------|
| DATABASE WS ID | AW-W016 | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | ELECTROREFINER STRIPPER CADMIUM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3190 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | |

IBC's

Site CH-ANL-245T

Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 1 |
| Total | 1 |

EPA CODE(s)

D006A

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| Organics | Celulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| Solidified | Plastics | 67.57 | 15.09 | 0.00 |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 19, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|------------------------|-------------------------|--------------------------------|------------------------|---------|
| DATABASE WS ID | AW-W018 | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | SODIUM - TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 6200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unspecified Metal Waste | TRUCON | Information Incomplete | |

DC's

Site CH-ANL-180T

Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| D003D |
| D001C |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | 45.27 | 7.43 | 0.00 |
| Solidified | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| | Organic Matrix | | | |
| Soils | Inorganic Matrix | | | |
| | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 7, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---|------------------------------|-------------------------|-------------------------|------------------------|------------------------|
| DATABASE WS ID | AW-W019 | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | SODIUM POTASSIUM - NAK - TRU | | | | |
| NO MIGRATION VARIANCE PETITION Information Incomplete | | | | | |
| WASTE MATRIX CODE | - Site | 6200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unspecified Metal Waste | | TRUCON | Information Incomplete |

| | |
|----------|-------------|
| Site | CH-ANL-182T |
| Assigned | RF-480 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| D003D |
| D001C |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | 45.27 | 7.43 | 0.00 |
| Solidified | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| | Organic Matrix | | | |
| Soils | Inorganic Matrix | | | |
| | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 7, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|-----------------------|------------------------|-------------------------|--------------|------------------------|
| DATABASE WS ID | AW-W020 | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | TRU-CD-HOT CELL WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | | Information Incomplete | | | |
| WASTE MATRIX CODE | - Site | 5400 | WIPP PART B APPLICATION | | Information Incomplete |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

IDC's
 Site CH-ANL-241T
 Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

D006A

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|----------------------------|-------------------------|--------------------------------|------------------------|---------|
| DATABASE WS ID | AW-W021 | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | ELEMENT HARDWARE FCF WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5100 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unspecified Metal Waste | TRUCON | Information Incomplete | |

IDC's

Site CH-ANL-243T

Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 1 |
| Total | 1 |

EPA CODE(s)

| |
|-------|
| D006A |
| D005A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | 45.27 | 7.43 | 0.00 |
| Solidified | Celulosics | 67.57 | 15.09 | 0.00 |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|-------------------------------------|----------------------------|--------------------------------|------------------------|---------|
| DATABASE WS ID | AW-W022 | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | ELECTROREFINER INSOLUBLES W/CADMIUM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

Site CH-ANL-246T
Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

D006A

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|----------------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|------------------------------------|-----------------|--------------------------------|------------------------|---------|
| DATABASE WS ID | AW-W024 | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | SPENT HEPA FILTERS AND PRE-FILTERS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5410 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Filter Waste | TRUCON | Information Incomplete | |

Site CH-ANL-503
Assigned RF-490

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 7 |
| Projected | 0 |
| Total | 8 |

EPA CODE(s)

| |
|-------|
| D008A |
| D007A |
| D006A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 429.82 | 429.82 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | 8.77 | 8.77 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 17, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | BC-T01 | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | NON MIXED TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Unknown Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 0 |
| Projected | 368 |
| Total | 368 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|-----|--------|-----|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 20, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | BE-T01 | HANDLING | CH | FIELD OFFICE | Naval Reacto |
| WS NAME | NON MIXED TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Unknown Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 0 |
| Projected | 237 |
| Total | 237 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|-----|--------|-----|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 20, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|-------------------------|----|---------------------|------------------------|
| DATABASE WS ID | BE-T02 | HANDLING | RH | FIELD OFFICE | Naval Reacto |
| WS NAME | NON MIXED TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Unknown Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| DC's | |
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 7 |
| Total | 7 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|-----|--------|-----|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 20, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--------------------------------|----------|-------------------------------|--------------|---------|
| DATABASE WS ID | ET-T01 | HANDLING | CH | FIELD OFFICE | Oakland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | WIPP PART B APPLICATION | | Not Applicable | | |
| - Group | Lead/Cadmium Metal Waste | | TRUCON Information Incomplete | | |

| | |
|----------|--------------|
| Site | Not Reported |
| Assigned | RF-321 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 3 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------|--------------------------------|------------------------|---------|
| DATABASE WS ID | ET-W002 | HANDLING | CH | FIELD OFFICE | Oakland |
| WS NAME | TRU LEAD SHIELDING (ONE BRICK) | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 7200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | |

DC's

Site ET

Assigned RF-321

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

D008C

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 6, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W112 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | HEPA FILTERS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5410 | WIPP PART B APPLICATION | FILTERS (UNSPECIFIED) | | |
| - Group | Filter Waste | TRUCON | Information Incomplete | | |

Site ID-WIN-172
Assigned RF-490

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 20 |
| Projected | 204 |
| Total | 224 |

EPA CODE(s)

| |
|-------|
| F005A |
| F005A |
| P027 |
| P024 |
| P022 |
| P012 |
| P005 |
| F005B |
| F005A |
| F002 |
| F005A |
| D009F |
| F005A |
| P028 |
| F002 |
| F002 |
| P030 |
| F002 |
| F002 |
| F002 |
| F002 |
| F002 |
| F001 |
| F001 |
| F005A |
| D039 |
| D026 |
| D028 |
| D032 |
| D034 |
| D035 |
| D036 |
| D038 |
| F001 |
| D040 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 429.82 | 429.82 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | 8.77 | 8.77 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

| |
|-------|
| F001 |
| D007B |
| F001 |
| D021 |
| D019 |
| D018 |
| D011B |
| D010B |
| F001 |
| D008D |
| D006C |
| D005B |
| D004B |
| F002 |
| D022 |

Footnotes: 16, 17, 21, 22

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--------------------------------------|------------------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W139 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | TRANSURANIC CONTAMINATED LEAD DEBRIS | | | | |
| NO MIGRATION VARIANCE PETITION | | Information Incomplete | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | METAL (UNSPECIFIED) | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

| | |
|----------|--------------|
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 0 |
| Total | 5 |

EPA CODE(s)

D008C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | | | | |
| Organics | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| | | | | |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9, 16, 17, 21, 22

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|----------------------------|-------------------------|------------------------|------------------------|-------|
| DATABASE WS ID | IN-W146 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | TRU HEAVY METAL SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3129 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete | |

Site: Not Reported
Assigned: RF-800

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)

| |
|-------|
| D006A |
| D011A |
| D009A |
| D008A |
| D007A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16,17, 21, 22

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|---|--------------------------|--------------------------------|---------------------|-------|
| DATABASE WS ID | IN-W157 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): SPECIAL SETUPS (CEMENT) | | | | |
| NO MIGRATION VARIANCE PETITION | ID 213 | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | SOLIDIFIED LIQUID | |
| | - Group | Solidified Organic Waste | TRUCON | ID 213 | |

IDC's

Site ID-EGG-112T-004

Assigned RF-801

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 227 |
| Projected | 0 |
| Total | 227 |

EPA CODE(s)

| |
|-------|
| F001 |
| D002B |
| D008A |
| F001 |
| F001 |
| F002 |
| F003 |
| F003 |
| D006A |
| F003 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W159 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED INORGANIC SLUDGE (TRU): EVAPORATOR AND DISSOLVER SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3150 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

IDC's
 Site ID-EGG-102T-811
 Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

| |
|-------|
| P015 |
| D001C |
| D009A |
| D009D |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16,17,21,22

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---------------------------------|---------------------------|-------------------------|------------------------------|-------|
| DATABASE WS ID | IN-W161 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CONCRETE-BRICK (TRU): FIREBRICK | | | | |
| NO MIGRATION VARIANCE PETITION | ID 122 | | | | |
| WASTE MATRIX CODE | - Site | 5230 | WIPP PART B APPLICATION | FIREBRICK AND CERAMIC CRUCIB | |
| | - Group | Inorganic Non-metal Waste | TRUCON | ID 222 | |

Site **IDC's**
ID-EGG-115T-371
Assigned RF-371

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 111 |
| Projected | 0 |
| Total | 111 |

EPA CODE(s)

| |
|------|
| F001 |
| F001 |
| F002 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 572.12 | 572.12 | 0.00 |
| Organics | Celulosics | 24.04 | 24.04 | 0.00 |
| | Rubber | | | |
| | Plastics | 24.04 | 24.04 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------------|--------|
| DATABASE WS ID | IN-W163 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CONCRETE-BRICK (TRU): OIL-DRI RESIDUE FROM INCINERATOR | | | | |
| NO MIGRATION VARIANCE PETITION | ID 122 | | | | |
| WASTE MATRIX CODE | - Site | 3119 | WIPP PART B APPLICATION | FIREBRICK AND CERAMIC CRUCIB | |
| | - Group | Heterogeneous Waste | | TRUCON | ID 122 |

Site ID-EGG-115T-375
Assigned RF-375

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

| |
|------|
| F002 |
| F001 |
| F001 |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | 4.81 | 4.81 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 961.54 | 557.69 | 216.35 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | 38.46 | 38.46 | 0.00 |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 9

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|--------------------------|-------------------------|-----------------------|--------|
| DATABASE WS ID | IN-W164 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): ORGANIC AND SLUDGE IMMOBILIZATION SYSTEM WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 122 | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | ORGANIC LIQUID/SLUDGE | |
| | - Group | Solidified Organic Waste | | TRUCON | ID 112 |

Site ID-EGG-112T-700
Assigned RF-801

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)

| |
|------|
| F001 |
| F001 |
| F001 |
| F003 |
| D022 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 19

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|-------------------------|-----------------------------|--------------|-------|
| DATABASE WS ID | IN-W166 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): SOLID INORGANIC PROCESS SOLUTION | | | | |
| NO MIGRATION VARIANCE PETITION | ID 114 (3) | | | | |
| WASTE MATRIX CODE - Site | 3150 | WIPP PART B APPLICATION | INORGANIC PROCESS SOLIDS AN | | |
| - Group | Solidified Inorganic Waste | TRUCON | ID 114 (3) | | |

Site ID-EGG-112T-114
Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 71 |
| Projected | 0 |
| Total | 71 |

EPA CODE(s)

| |
|-------|
| F001 |
| F003 |
| F001 |
| F001 |
| F002 |
| F003 |
| F003 |
| D008A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 25

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|--------------------------|-------------------------|------------------------------|------------|
| DATABASE WS ID | IN-W167 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): SOLID ORGANICS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 112 (3) | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | ORGANIC LIQUID/SLUDGE (UNSP) | |
| | - Group | Solidified Organic Waste | | TRUCON | ID 112 (3) |

| | |
|----------|-----------------|
| Site | ID-EGG-112T-112 |
| Assigned | RF-801 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 164 |
| Projected | 0 |
| Total | 164 |

EPA CODE(s)

| |
|------|
| F001 |
| D022 |
| F001 |
| F001 |
| F003 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 19, 25

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|---------------------|-------------------------|--------------|--------|
| DATABASE WS ID | IN-W169 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): DRY PAPER AND RAGS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 216 | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES | |
| | - Group | Heterogeneous Waste | | TRUCON | ID 216 |

Site ID's
Site ID-EGG-114T-330
Assigned RF-831

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 5775 |
| Projected | 0 |
| Total | 5775 |

EPA CODE(s)

| |
|-------|
| F001 |
| D008A |
| D008C |
| D022 |
| D029 |
| F001 |
| F001 |
| F003 |
| F001 |
| F003 |
| F001 |
| F005 |
| F005A |
| F002 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------|--------|--------|------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W170 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): DECONTAMINATION/DECOMMISSIONING WASTE COMBUSTIBLE SOLIDS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

Site ID-EGG-114T-120

Assigned AE-120

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| D008A |
| D006A |
| F003 |
| D004A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 63.16 | 36.84 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 10.53 | 2.63 | 0.00 |
| Organics | Celulosics | 450.95 | 213.16 | 47.37 |
| | Rubber | 7.16 | 2.37 | 0.00 |
| | Plastics | 57.26 | 21.32 | 1.58 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---|---------------------|-------------------------|--------------|------------------------|
| DATABASE WS ID | IN-W171 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): RESEARCH GENERATED WASTE COMPACTIBLE AND COMBUSTIBLE SOLIDS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

Site ID-EGG-114T-110
Assigned AE-110

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 4 |
| Projected | 0 |
| Total | 4 |

EPA CODE(s)

| |
|-------|
| F003 |
| D008A |
| D006A |
| D004A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 14.42 | 4.81 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 19.23 | 4.81 | 0.00 |
| Organics | Celulosics | 458.65 | 287.69 | 43.27 |
| | Rubber | 8.65 | 3.27 | 0.00 |
| | Plastics | 60.58 | 35.96 | 1.44 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|----------------------------------|---------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W172 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): COMBUSTIBLES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-114T-010

Assigned RF-831

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 166 |
| Projected | 0 |
| Total | 166 |

EPA CODE(s)

| |
|------|
| F002 |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|---|----------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | IN-W174 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): HIGH LEVEL ACID | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3113 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

Site ID-EGG-112T-834
Assigned MD-836

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 151 |
| Projected | 0 |
| Total | 151 |

EPA CODE(s)

| |
|-------|
| D002A |
| D001C |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | 630.29 | 630.29 | 0.00 |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--|----------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W177 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): HIGH LEVEL CAUSTIC | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

Site ID-EGG-112T-835

Assigned MD-836

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 176 |
| Projected | 0 |
| Total | 176 |

EPA CODE(s)

D002B

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 630.29 | 630.29 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|------------------------|-------|
| DATABASE WS ID | IN-W179 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): HIGH LEVEL SLUDGE/CEMENT | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3150 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete | |

Site **IDC's**
ID-EGG-112T-836
Assigned MD-836

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 6 |
| Projected | 0 |
| Total | 6 |

EPA CODE(s)

| |
|-------|
| F001 |
| D002B |
| D006A |
| D007A |
| D008A |
| D009A |
| D010A |
| D011A |
| F001 |
| F003 |
| F003 |
| P015 |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 630.29 | 630.29 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|-----------------------|--------------|-------|
| DATABASE WS ID | IN-W181 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): LAUNDRY SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 211 | | | | |
| WASTE MATRIX CODE - Site | 3150 | WIPP PART B APPLICATION | INORGANIC WASTE WATER | | |
| - Group | Solidified Inorganic Waste | TRUCON | ID 211 | | |

| | |
|----------|-----------------|
| Site | ID-EGG-112T-978 |
| Assigned | RF-807 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 10 |
| Projected | 0 |
| Total | 10 |

EPA CODE(s)

| |
|-------|
| F001 |
| D002B |
| D006A |
| D007A |
| D008A |
| D009A |
| P015 |
| F001 |
| F003 |
| F001 |
| F002 |
| F003 |
| F003 |
| F001 |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|---------------------------------------|---------------------|--------------------------------|---------------------|-------|
| DATABASE WS ID | IN-W186 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): COMBUSTIBLE WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 116 (3) | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES | |
| | - Group | Heterogeneous Waste | TRUCON | ID 116 (3) | |

Site ID-EGG-114T-116
Assigned RF-831

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 2695 |
| Projected | 0 |
| Total | 2695 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| D008A |
| F002 |
| F001 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| | | | | |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 25

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------|---------------------|-------|
| DATABASE WS ID | IN-W187 | | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED INORGANIC SLUDGE (TRU): EQUIPMENT | | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | Information Incomplete | | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

DC's

Site ID-EGG-102T-980

Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| F002 |
| F001 |
| F001 |
| F001 |
| D008A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| Organics | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|---|--------------------------|-------------------------|----------------------------|--------|
| DATABASE WS ID | IN-W188 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): BUILDING 776 PROCESS SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 211 | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | INORGANIC WASTE WATER TREA | |
| | - Group | Solidified Organic Waste | | TRUCON | ID 211 |

IDC's
 Site ID-EGG-112T-976
 Assigned RF-801

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| F001 |
| F002 |
| F003 |
| F003 |
| F003 |
| F003 |
| P015 |
| D002B |
| F001 |
| D028 |
| D022 |
| D009A |
| D008A |
| D007A |
| D006A |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | | | |
| | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 19

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|---|---------------------|-------------------------|-----------------------|-------|
| DATABASE WS ID | IN-W189 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | BENELEX, PLEXIGLASS (TRU): BENELEX AND PLEXIGLASS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 221 | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | BENELEX AND PLEXIGLAS | |
| | - Group | Heterogeneous Waste | TRUCON | ID 221 | |

Site ID-EGG-109T-464
Assigned RF-302

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 6 |
| Projected | 0 |
| Total | 6 |

EPA CODE(s)

| |
|-------|
| D008C |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1.92 | 1.92 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 7.69 | 7.69 | 0.00 |
| | Other Materials | 86.54 | 86.54 | 0.00 |
| Organics | Celulosics | 40.38 | 40.38 | 0.00 |
| | Rubber | | | |
| Solidified | Plastics | 296.15 | 296.15 | 0.00 |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|-------------------------|--------------|--------------|-------|
| DATABASE WS ID | IN-W197 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): MOIST PAPER AND RAGS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 216 | | | | |
| WASTE MATRIX CODE - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES | | |
| - Group | Heterogeneous Waste | TRUCON | ID 216 | | |

Site **IDC's**
 ID-EGG-114T-336
 Assigned RF-832

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 778 |
| Projected | 0 |
| Total | 778 |

EPA CODE(s)

| |
|-------|
| F001 |
| D008A |
| D002B |
| D008C |
| F001 |
| F001 |
| F001 |
| F001 |
| F002 |
| F003 |
| F003 |
| D022 |
| F005A |
| D001C |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 3.53 | 0.60 | 0.00 |
| Organics | Celulosics | 475.08 | 115.58 | 0.00 |
| | Rubber | 40.38 | 16.75 | 0.00 |
| | Plastics | 71.26 | 35.18 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|-------------------|-------------------------|--------------|-------|
| DATABASE WS ID | IN-W198 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): PLASTICS, TEFLON, WASH AND PVC | | | | |
| NO MIGRATION VARIANCE PETITION | ID 216 | | | | |
| WASTE MATRIX CODE | - Site | 5310 | WIPP PART B APPLICATION | COMBUSTIBLES | |
| | - Group | Combustible Waste | TRUCON | ID 216 | |

| | |
|----------|-----------------|
| Site | ID-EGG-114T-337 |
| Assigned | RF-833 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 170 |
| Projected | 0 |
| Total | 170 |

EPA CODE(s)

| |
|-------|
| D008C |
| F005A |
| F005A |
| F003 |
| F003 |
| F001 |
| F002 |
| F003 |
| D008A |
| F001 |
| F001 |
| F001 |
| D029 |
| D022 |
| F001 |
| F003 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 0.85 | 0.44 | 0.00 |
| Organics | Celulosics | 1.70 | 0.14 | 0.00 |
| | Rubber | 42.51 | 13.93 | 0.00 |
| | Plastics | 510.09 | 122.52 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|---|-------------------------|------------------------------|--------------|-------|
| DATABASE WS ID | IN-W199 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): WASHABLES, RUBBER, PLASTICS | | | | |
| NO MIGRATION VARIANCE PETITION | ID NYD | | | | |
| WASTE MATRIX CODE - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES ((UNSPECIFIED)) | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site ID-EGG-114T-460
Assigned RF-833

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

| |
|------|
| F001 |
| F001 |
| F001 |
| F002 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 0.85 | 0.44 | 0.00 |
| Organics | Celulosics | 1.70 | 0.14 | 0.00 |
| | Rubber | 42.51 | 13.93 | 0.00 |
| | Plastics | 510.09 | 122.52 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--------------------------|-------------------|-------------------------|--------------|-------|
| DATABASE WS ID | IN-W202 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): WOOD | | | | |
| NO MIGRATION VARIANCE PETITION | ID 216 | | | | |
| WASTE MATRIX CODE | - Site | 5320 | WIPP PART B APPLICATION | COMBUSTIBLES | |
| | - Group | Combustible Waste | TRUCON | ID 216 | |

| | |
|----------|-----------------|
| Site | ID-EGG-114T-970 |
| Assigned | RF-831 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 110 |
| Projected | 0 |
| Total | 110 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| D008A |
| F001 |
| F003 |
| F002 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--|---------------------|-------------------------|----------------------------|-------|
| DATABASE WS ID | IN-W203 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): COMBUSTIBLE EQUIPMENT BOXES OR FLOOR SWEEPING AND RUST | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES (UNSPECIFIED) | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

| | |
|----------|-----------------|
| Site | ID-EGG-114T-826 |
| Assigned | MD-827 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 80 |
| Projected | 0 |
| Total | 80 |

EPA CODE(s)

| |
|-------|
| D009D |
| D009A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.32 | 0.24 | 0.00 |
| | Other Materials | 17.31 | 17.31 | 0.00 |
| Organics | Celulosics | 918.75 | 63.03 | 0.00 |
| | Rubber | 212.02 | 19.18 | 0.00 |
| | Plastics | 1060.10 | 191.83 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---|---------------------|-------------------------|----------------------------|-------|
| DATABASE WS ID | IN-W204 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): COMBUSTIBLE EQUIPMENT DRUMS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES (UNSPECIFIED) | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

Site **IDC's**
 Site ID-EGG-114T-827
 Assigned MD-827

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)

| |
|-------|
| D009A |
| D009D |
| D008A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.32 | 0.24 | 0.00 |
| | Other Materials | 17.31 | 17.31 | 0.00 |
| Organics | Celulosics | 918.75 | 63.03 | 0.00 |
| | Rubber | 212.02 | 19.18 | 0.00 |
| | Plastics | 1060.10 | 191.83 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|--------------|--------------|-------|
| DATABASE WS ID | IN-W205 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): LOW SPECIFIC ACTIVITY PLASTICS, PAPER ETC. | | | | |
| NO MIGRATION VARIANCE PETITION | ID 216 | | | | |
| WASTE MATRIX CODE - Site | 5300 | WIPP PART B APPLICATION | COMBUSTIBLES | | |
| - Group | Combustible Waste | TRUCON | ID 216 | | |

| | |
|----------|-----------------|
| Site | ID-EGG-114T-900 |
| Assigned | RF-833 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| F001 |
| F001 |
| F002 |
| F003 |
| D008A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 0.85 | 0.44 | 0.00 |
| Organics | Celulosics | 1.70 | 0.14 | 0.00 |
| | Rubber | 42.51 | 13.93 | 0.00 |
| | Plastics | 510.09 | 122.52 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|-----------------------|--------------|-------|
| DATABASE WS ID | IN-W206 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | FILTERS (TRU): CERTIFIED TRU HEPA FILTER WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 119 (3) | | | | |
| WASTE MATRIX CODE - Site | 5410 | WIPP PART B APPLICATION | FILTERS (UNSPECIFIED) | | |
| - Group | Filter Waste | TRUCON | ID 119 (3) | | |

Site **IDC's**
 ID-EGG-118T-119
 Assigned RF-490

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 383 |
| Projected | 0 |
| Total | 383 |

EPA CODE(s)

| |
|-------|
| F001 |
| D001C |
| F001 |
| F002 |
| F001 |
| D002B |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 429.82 | 429.82 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | 8.77 | 8.77 | 0.00 |
| | Organic Matrix | | | |
| Soils | Inorganic Matrix | | | |
| | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 25

WASTE STREAM PROFILES

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| | | | | | |
|--------------------------------|---|--------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W207 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | FILTERS (TRU): FULFLO INCINERATOR FILTERS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5410 | WIPP PART B APPLICATION | FILTERS (UNSPECIFIED) | |
| | - Group | Filter Waste | TRUCON | Information Incomplete | |

Site **IDC's**
 ID-EGG-118T-328
 Assigned RF-335

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

| |
|-------|
| F002 |
| F001 |
| F001 |
| F001 |
| D002B |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 500.00 | 168.27 | 48.08 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22

WASTE STREAM PROFILES (CONTINUED)

CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|---|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W214 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | FILTERS (TRU): GLASS FILTERS AND FIBERGLASS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5410 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Filter Waste | TRUCON | Information Incomplete | | |

DC's

Site ID-EGG-118T-813

Assigned RF-438

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

| |
|-------|
| D001C |
| D009D |
| D009A |
| D002B |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 293.27 | 194.71 | 24.04 |
| Organics | Celulosics | 9.62 | 4.81 | 1.20 |
| | Rubber | | | |
| Solidified | Plastics | | | |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|---|----------------------------|-------------------------|----------------------------|--------|
| DATABASE WS ID | IN-W216 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED INORGANIC SLUDGE (TRU): FIRST STAGE SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 211 | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | INORGANIC WASTE WATER TREA | |
| | - Group | Solidified Inorganic Waste | | TRUCON | ID 211 |

| | |
|----------|-----------------|
| Site | ID-EGG-102T-001 |
| Assigned | RF-800 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 2531 |
| Projected | 0 |
| Total | 2531 |

EPA CODE(s)

| |
|-------|
| D002B |
| P015 |
| F003 |
| F003 |
| F003 |
| F002 |
| F001 |
| F001 |
| F001 |
| F001 |
| D022 |
| D011A |
| D009A |
| D008A |
| D007A |
| D006A |
| D005A |
| D028 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|----------------------------|-------------------------|----------------------------|-------|
| DATABASE WS ID | IN-W218 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED INORGANIC SLUDGE (TRU): BLDG 374 DRY SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 211 | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | INORGANIC WASTE WATER TREA | |
| | - Group | Solidified Inorganic Waste | | TRUCON ID 211 | |

Site ID-EGG-102T-007
Assigned RF-803

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 459 |
| Projected | 0 |
| Total | 459 |

EPA CODE(s)

| |
|-------|
| F003 |
| F001 |
| F001 |
| F002 |
| F001 |
| F003 |
| F003 |
| F005A |
| F001 |
| F001 |
| D028 |
| D009A |
| D008A |
| D007A |
| D006A |
| D002B |
| P015 |
| D022 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 778.85 | 663.46 | 451.92 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED)

CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---|----------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W219 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED INORGANIC SLUDGE (TRU): SOLIDIFIED GRINDING SLUDGE, ETC. | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-102T-030

Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 10 |
| Projected | 0 |
| Total | 10 |

EPA CODE(s)

| |
|------|
| F002 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|----------------------------|--------------|-------|
| DATABASE WS ID | IN-W220 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED ORGANIC SLUDGE (TRU): RESEARCH GENERATED WASTE NONCOMPACTIBLE SOLID | | | | |
| NO MIGRATION VARIANCE PETITION | ID 111 (3) | | | | |
| WASTE MATRIX CODE - Site | 3150 | WIPP PART B APPLICATION | INORGANIC WASTE WATER TREA | | |
| - Group | Solidified Organic Waste | | TRUCON | ID 111 (3) | |

IDC's
 Site ID-EGG-102T-111
 Assigned RF-801

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 554 |
| Projected | 0 |
| Total | 554 |

EPA CODE(s)

| |
|-------|
| D002B |
| P015 |
| F005A |
| F003 |
| F003 |
| F002 |
| F001 |
| F003 |
| F001 |
| F003 |
| F001 |
| D009A |
| D008A |
| D007A |
| D006A |
| D005A |
| D004A |
| F001 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 25

WASTE STREAM PROFILES

(CONTINUED)

CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|-------------------------|---------------------------------|--------------|-------|
| DATABASE WS ID | IN-W221 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED INORGANIC SLUDGE (TRU): SOLID LAB WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 113 (3) | | | | |
| WASTE MATRIX CODE - Site | 3113 | WIPP PART B APPLICATION | SOLIDIFIED LIQUID (UNSPECIFIED) | | |
| - Group | Solidified Inorganic Waste | TRUCON | ID 113 (3) | | |

| | |
|----------|-----------------|
| Site | ID-EGG-102T-113 |
| Assigned | RF-800 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 14 |
| Projected | 0 |
| Total | 14 |

EPA CODE(s)

| |
|-------|
| F003 |
| D002B |
| F003 |
| F003 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W222 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED INORGANIC SLUDGE (TRU): CEMENTED SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3150 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

Site **ID-EGG-102T-292**

Assigned **RF-806.2**

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 276 |
| Projected | 0 |
| Total | 276 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| D002B |
| D006A |
| D008A |
| F003 |
| F002 |
| F003 |
| F003 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---|-------------------------|-----------------------|--------------|-------|
| DATABASE WS ID | IN-W225 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | BENELEX, PLEXIGLASS (TRU): BENELEX AND PLEXIGLASS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 221 | | | | |
| WASTE MATRIX CODE - Site | 5440 | WIPP PART B APPLICATION | BENELEX AND PLEXIGLAS | | |
| - Group | Heterogeneous Waste | TRUCON | ID 221 | | |

Site ID-EGG-109T-302
Assigned RF-302

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 22 |
| Projected | 0 |
| Total | 22 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| F001 |
| D008C |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1.92 | 1.92 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 7.69 | 7.69 | 0.00 |
| | Other Materials | 86.54 | 86.54 | 0.00 |
| Organics | Celulosics | 40.38 | 40.38 | 0.00 |
| | Rubber | | | |
| Solidified | Plastics | 296.15 | 296.15 | 0.00 |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--|----------------------------|-------------------------|----------------------------|--------|
| DATABASE WS ID | IN-W228 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED INORGANIC SLUDGE (TRU): SECOND STAGE SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 211 | | | | |
| WASTE MATRIX CODE | - Site | 3121 | WIPP PART B APPLICATION | INORGANIC WASTE WATER TREA | |
| | - Group | Solidified Inorganic Waste | | TRUCON | ID 211 |

Site ID-EGG-102T-002
Assigned RF-807

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1297 |
| Projected | 0 |
| Total | 1297 |

EPA CODE(s)

| |
|-------|
| D006A |
| F003 |
| F003 |
| F003 |
| F002 |
| F001 |
| F001 |
| F001 |
| P015 |
| D028 |
| D003E |
| D002B |
| F001 |
| D005A |
| D022 |
| D007A |
| D008A |
| D009A |
| D009D |
| D011A |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---|-------------------------|------------------------------|--------------|-------|
| DATABASE WS ID | IN-W230 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CONCRETE - BRICK (TRU): INORGANIC SOLID WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 122 (3) | | | | |
| WASTE MATRIX CODE - Site | 5200 | WIPP PART B APPLICATION | FIREBRICK AND CERAMIC CRUCIB | | |
| - Group | Inorganic Non-metal Waste | TRUCON | ID 122 (3) | | |

Site ID-EGG-115T-122
Assigned RF-370

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 18 |
| Projected | 0 |
| Total | 18 |

EPA CODE(s)

| |
|------|
| F001 |
| F001 |
| F002 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 528.85 | 528.85 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 25

WASTE STREAM PROFILES (CONTINUED)

CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---------------------------|-------------------------|---------------------|--------------|-------|
| DATABASE WS ID | IN-W240 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLASS (TRU): GLASS WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 118 (3) | | | | |
| WASTE MATRIX CODE - Site | 5220 | WIPP PART B APPLICATION | GLASS (UNSPECIFIED) | | |
| - Group | Inorganic Non-metal Waste | TRUCON | ID 118 (3) | | |

IDC's

Site ID-EGG-119T-118

Assigned RF-440

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 169 |
| Projected | 0 |
| Total | 169 |

EPA CODE(s)

| |
|-------|
| F001 |
| D002B |
| D008A |
| D009A |
| F001 |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| | Organics | | | |
| | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 25

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|---------------------------|-------------------------|--------|--------------|-------|
| DATABASE WS ID | IN-W243 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLASS (TRU): GLASS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 218 | | | | |
| WASTE MATRIX CODE - Site | 5220 | WIPP PART B APPLICATION | GLASS | | |
| - Group | Inorganic Non-metal Waste | TRUCON | ID 218 | | |

Site **IDC's**
 ID-EGG-119T-440
 Assigned RF-440

WASTE VOLUMES (cu. m.)

| | |
|--------------|------------|
| Retrievable | 248 |
| Projected | 0 |
| Total | 248 |

EPA CODE(s)

| |
|-------|
| F001 |
| D002B |
| D008A |
| D008C |
| F001 |
| F001 |
| F002 |
| F003 |
| F005 |
| D029 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| | Organics | | | |
| | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|-------------------------------------|-------------------------|---------------------|--------------|-------|
| DATABASE WS ID | IN-W245 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLASS (TRU): UNLEACHED RASHIG RINGS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 225 | | | | |
| WASTE MATRIX CODE - Site | 8900 | WIPP PART B APPLICATION | GLASS (OIL RESIDUE) | | |
| - Group | Inorganic Non-metal Waste | TRUCON | ID 225 | | |

Site ID-EGG-119T-441
Assigned RF-440

WASTE VOLUMES (cu. m.)

| | |
|--------------|------------|
| Retrievable | 169 |
| Projected | 0 |
| Total | 169 |

EPA CODE(s)

| |
|-------|
| F001 |
| D001C |
| D002B |
| D008A |
| D008C |
| F001 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| | Organics | | | |
| | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 13, 16, 17, 18

WASTE STREAM PROFILES

(CONTINUED)

CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|-----------------------------------|---------------------------|-------------------------|--------------|--------|
| DATABASE WS ID | IN-W247 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLASS (TRU): LEACHED RASHIG RINGS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 218 | | | | |
| WASTE MATRIX CODE | - Site | 8900 | WIPP PART B APPLICATION | GLASS | |
| | - Group | Inorganic Non-metal Waste | | TRUCON | ID 218 |

Site ID-EGG-119T-442
Assigned RF-440

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 199 |
| Projected | 0 |
| Total | 199 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| D008A |
| D028 |
| F001 |
| D002B |
| F002 |
| F003 |
| F003 |
| F005A |
| F005A |
| F001 |
| D029 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| Organics | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 13, 16, 18

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

29-Jun-94

| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W249 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLASS (TRU): GLASS, FLASKS, SAMPLE VIALS, ETC. | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 8900 | WIPP PART B APPLICATION | GLASS (UNSPECIFIED) | | |
| - Group | Inorganic Non-metal Waste | TRUCON | Information Incomplete | | |

IDC's
 Site ID-EGG-119T-810
 Assigned RF-440

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 3 |
| Projected | 0 |
| Total | 3 |

EPA CODE(s)

| |
|-------|
| D009D |
| D009A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| | Organics | | | |
| | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 13, 16, 17, 18, 21, 22

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|--------------------------------------|-------------------------|-----------------------------|--------------|-------|
| DATABASE WS ID | IN-W250 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLOVEBOX GLOVES (TRU): LEADED RUBBER | | | | |
| NO MIGRATION VARIANCE PETITION | ID 123 (3) | | | | |
| WASTE MATRIX CODE - Site | 5311 | WIPP PART B APPLICATION | LEADED RUBBER (UNSPECIFIED) | | |
| - Group | Combustible Waste | TRUCON | ID 123 (3) | | |

Site ID-EGG-120T-123
Assigned RF-339

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 64 |
| Projected | 0 |
| Total | 64 |

EPA CODE(s)

D008C

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 504.81 | 254.81 | 0.00 |
| | Other Materials | 144.23 | 28.85 | 0.00 |
| Organics | Celulosics | 10.10 | 5.77 | 0.00 |
| | Rubber | 464.42 | 265.38 | 0.00 |
| | Plastics | 30.29 | 17.31 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|--|-------------------|-------------------------|---------------|-------|
| DATABASE WS ID | IN-W252 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLOVEBOX GLOVES (TRU): LEADED RUBBER GLOVES AND APRONS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 223 | | | | |
| WASTE MATRIX CODE | - Site | 5311 | WIPP PART B APPLICATION | LEADED RUBBER | |
| | - Group | Combustible Waste | TRUCON | ID 223 | |

| | |
|----------|-----------------|
| Site | ID-EGG-120T-339 |
| Assigned | RF-339 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 160 |
| Projected | 0 |
| Total | 160 |

EPA CODE(s)

| |
|-------|
| D022 |
| F001 |
| D008C |
| D028 |
| D029 |
| F001 |
| F001 |
| F001 |
| F005A |
| F001 |
| F005A |
| F003 |
| F003 |
| F003 |
| F002 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 504.81 | 254.81 | 0.00 |
| | Other Materials | 144.23 | 28.85 | 0.00 |
| Organics | Celulosics | 10.10 | 5.77 | 0.00 |
| | Rubber | 464.42 | 265.38 | 0.00 |
| | Plastics | 30.29 | 17.31 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

29-Jun-94

| | | | | | |
|--------------------------------|--|-------------------------|---------------|--------------|-------|
| DATABASE WS ID | IN-W254 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLOVEBOX GLOVES (TRU): LEADED RUBBER GLOVES AND APRONS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 223 | | | | |
| WASTE MATRIX CODE - Site | 5311 | WIPP PART B APPLICATION | LEADED RUBBER | | |
| - Group | Combustible Waste | TRUCON | ID 223 | | |

Site **IDC's**
 ID-EGG-120T-463
 Assigned RF-339

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 10 |
| Projected | 0 |
| Total | 10 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| F001 |
| F002 |
| D008C |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 504.81 | 254.81 | 0.00 |
| | Other Materials | 144.23 | 28.85 | 0.00 |
| Organics | Celulosics | 10.10 | 5.77 | 0.00 |
| | Rubber | 464.42 | 265.38 | 0.00 |
| | Plastics | 30.29 | 17.31 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 16, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|---|-------------------|--------------------------------|-----------------------------|-------|
| DATABASE WS ID | IN-W256 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLOVEBOX GLOVES (TRU): DRY BOX GLOVES AND O-RINGS | | | | |
| NO MIGRATION VARIANCE PETITION | ID NYD | | | | |
| WASTE MATRIX CODE | - Site | 5311 | WIPP PART B APPLICATION | LEADED RUBBER (UNSPECIFIED) | |
| | - Group | Combustible Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-120T-802

Assigned RF-339

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 26 |
| Projected | 0 |
| Total | 26 |

EPA CODE(s)

D008C

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 504.81 | 254.81 | 0.00 |
| | Other Materials | 144.23 | 28.85 | 0.00 |
| Organics | Celulosics | 10.10 | 5.77 | 0.00 |
| | Rubber | 464.42 | 265.38 | 0.00 |
| | Plastics | 30.29 | 17.31 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 19,

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|---|----------------------------|-------------------------|------------------------|------------------------|
| DATABASE WS ID | IN-W257 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | RADIOACTIVE SOURCES (TRU): SOLIDIFIED FUEL SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

Site **ID-EGG-144T-151**
Assigned **MD-827**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

D008C

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.32 | 0.24 | 0.00 |
| | Other Materials | 17.31 | 17.31 | 0.00 |
| Organics | Celulosics | 918.75 | 63.03 | 0.00 |
| | Rubber | 212.02 | 19.18 | 0.00 |
| | Plastics | 1060.10 | 191.83 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 2, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|---|---------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W259 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | RADIOACTIVE SOURCES (TRU): ALPHA HOT CELL WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-144T-104

Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 59 |
| Projected | 0 |
| Total | 59 |

EPA CODE(s)

D008A

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W260 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | RADIOACTIVE SOURCES (TRU): SOLID BINARY SCRAP POWDER, ETC. | | | | |
| NO MIGRATION VARIANCE PETITION | ID NYD | | | | |
| WASTE MATRIX CODE - Site | 3100 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Unspecified Metal Waste | TRUCON | Information Incomplete | | |

Site **IDC's**
ID-EGG-144T-040
Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 36 |
| Projected | 0 |
| Total | 36 |

EPA CODE(s)

| |
|-------|
| D008C |
| D008A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Celulosics | 45.27 | 7.43 | 0.00 |
| Organics | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

29-Jun-94

| | | | | | |
|--------------------------------|---|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W263 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | PARTICULATE WASTES (TRU): CONTAMINATED SOIL | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 4200 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Soil | TRUCON | Information Incomplete | | |

Site ID-EGG-141T-842
Assigned MD-842

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 38 |
| Projected | 0 |
| Total | 38 |

EPA CODE(s)

| |
|-------|
| D010A |
| D002B |
| D003E |
| D006A |
| D007A |
| D009A |
| D011A |
| D008A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | 0.57 | 0.57 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.15 | 0.08 | 0.00 |
| | Other Materials | 33.91 | 5.70 | 0.00 |
| | Organics | 0.71 | 0.71 | 0.00 |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Packaging Materials | Soil | 671.46 | 564.57 | 457.45 |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|---|---------------------|--------------------------------|------------------------|--------|
| DATABASE WS ID | IN-W265 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | PARTICULATE WASTES (TRU): BLACKTOP, CONCRETE, DIRT AND SAND | | | | |
| NO MIGRATION VARIANCE PETITION | ID 121 | | | | |
| WASTE MATRIX CODE | - Site | 5430 | WIPP PART B APPLICATION | BENELEX AND PLEXIGLASS | |
| | - Group | Heterogeneous Waste | | TRUCON | ID 121 |

IDC's

Site ID-EGG-141T-374

Assigned RF-374

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 53 |
| Projected | 0 |
| Total | 53 |

EPA CODE(s)

| |
|------|
| F001 |
| F004 |
| F001 |
| F001 |
| F001 |
| F001 |
| F001 |
| F003 |
| F003 |
| F003 |
| F002 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 3072.12 | 584.13 | 0.00 |
| Organics | Celulosics | 12.02 | 12.02 | 0.00 |
| | Rubber | | | |
| | Plastics | 12.02 | 12.02 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | 144.23 | 64.90 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES

(CONTINUED)

CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|------------------------|-------|
| DATABASE WS ID | IN-W267 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | PARTICULATE WASTES (TRU): GRIT | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3112 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete | |

IDC's
 Site ID-EGG-141T-372
 Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 7 |
| Projected | 0 |
| Total | 7 |

EPA CODE(s)
 P015

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|--|---------------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W269 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | PARTICULATE WASTES (TRU): LABORATORY WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | Site | 5000 | WIPP PART B APPLICATION | Information Incomplete | |
| | Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-141T-150

Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 26 |
| Projected | 0 |
| Total | 26 |

EPA CODE(s)

| |
|-------|
| D002B |
| D008A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| Organics | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|--|---------------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W271 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): CONTAMINATED MERCURY OR GRAPHITE CRUCIBLES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3190 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

| | |
|----------|-----------------|
| Site | ID-EGG-137T-814 |
| Assigned | MD-824 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| D009D |
| D009B |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1528.85 | 415.63 | 2.16 |
| | Aluminum-Based Metals/Alloys | 38.22 | 17.50 | 0.00 |
| | Other Metals | 46.63 | 4.81 | 0.00 |
| | Other Materials | 812.50 | 48.08 | 0.00 |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | 4.81 | 4.81 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 19, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|---|----------------|-------------------------|--------------|-------|
| DATABASE WS ID | IN-W272 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): COARSE GRAPHITE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 115 | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | GRAPHITE | |
| | - Group | Graphite Waste | TRUCON | ID 115 | |

Site ID-EGG-137T-312
Assigned RF-312

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)

| |
|------|
| F002 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 336.54 | 31.25 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9,16

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W275 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): GRAPHITE CORES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5000 | WIPP PART B APPLICATION | GRAPHITE (UNSPECIFIED) | | |
| - Group | Graphite Waste | TRUCON | Information Incomplete | | |

DC's

Site ID-EGG-137T-301

Assigned RF-300

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 6 |
| Projected | 0 |
| Total | 6 |

EPA CODE(s)

F001

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 798.12 | 65.73 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | | | |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9, 16, 17, 21, 22

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--|----------------|-------------------------|--------------|-------|
| DATABASE WS ID | IN-W276 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): GRAPHITE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 215 | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | GRAPHITE | |
| | - Group | Graphite Waste | TRUCON | ID 215 | |

| | |
|----------|-----------------|
| Site | ID-EGG-137T-300 |
| Assigned | RF-300 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 392 |
| Projected | 0 |
| Total | 392 |

EPA CODE(s)

| |
|-------|
| F001 |
| D022 |
| D028 |
| F001 |
| F001 |
| F002 |
| F003 |
| F005A |
| F005A |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 798.12 | 65.73 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 6, 9, 16

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W278 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | MISCELLANEOUS (PAPER, METAL, ETC.) (TRU): LOW SPECIFIC ACTIVITY METAL, GLASS, ETC. | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-134T-950

Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 14 |
| Projected | 0 |
| Total | 14 |

EPA CODE(s)

| |
|-------|
| D008C |
| D008A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---|-------------------------|-------------------------|---------------------|------------------------|
| DATABASE WS ID | IN-W280 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | METALS (TRU): METAL, EQUIPMENT, PIPES, VALVES, ETC. | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5100 | WIPP PART B APPLICATION | METAL (UNSPECIFIED) | |
| | - Group | Unspecified Metal Waste | | TRUCON | Information Incomplete |

Site **DC's**
ID-EGG-132T-803
Assigned MD-824

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 35 |
| Projected | 0 |
| Total | 35 |

EPA CODE(s)

| |
|-------|
| D009A |
| D009D |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1528.85 | 415.63 | 2.16 |
| | Aluminum-Based Metals/Alloys | 38.22 | 17.50 | 0.00 |
| | Other Metals | 46.63 | 4.81 | 0.00 |
| | Other Materials | 812.50 | 48.08 | 0.00 |
| | Celulosics | | | |
| Organics | Rubber | | | |
| | Plastics | 4.81 | 4.81 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|---|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W281 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | MISCELLANEOUS (PAPER,METAL, ETC.) (TRU): NONCOMBUSTIBLE EQUIPMENT BOXES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

DC's

Site ID-EGG-134T-824

Assigned MD-824

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 371 |
| Projected | 0 |
| Total | 371 |

EPA CODE(s)

| |
|-------|
| D008A |
| D007A |
| D006A |
| D005A |
| D010A |
| D011A |
| D009A |

| <u>WASTE PARAMETERS (kg/m3)</u> | | <u>Max</u> | <u>Avg</u> | <u>Min</u> |
|---------------------------------|------------------------------|------------|------------|------------|
| Inorganics | Iron-Based Metals/Alloys | 1528.85 | 415.63 | 2.16 |
| | Aluminum-Based Metals/Alloys | 38.22 | 17.50 | 0.00 |
| | Other Metals | 46.63 | 4.81 | 0.00 |
| | Other Materials | 812.50 | 48.08 | 0.00 |
| | Organics | Celulosics | | |
| Rubber | | | | |
| Plastics | | 4.81 | 4.81 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

CAO-94-1005, Rev. 0
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29-Jun-94

| | | | | | |
|--------------------------------|---|-------------------------|---------------------|--------------|-------|
| DATABASE WS ID | IN-W283 | HANDLING | CH. | FIELD OFFICE | Idaho |
| WS NAME | MISCELLANEOUS (PAPER, METAL, ETC.) (TRU): AMERICIUM PROCESS RESIDUE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 225 | | | | |
| WASTE MATRIX CODE - Site | 5400 | WIPP PART B APPLICATION | GLASS (UNSPECIFIED) | | |
| - Group | Heterogeneous Waste | TRUCON | ID 225 | | |

| | |
|----------|-----------------|
| Site | ID-EGG-134T-241 |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(S)

| |
|-------|
| F002 |
| D008C |
| D002B |
| D001C |
| F003 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| Organics | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|---|---------------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W285 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | MISCELLANEOUS (PAPER, METAL, ETC.) (TRU): NONCOMBUSTIBLE SOLIDS | | | | |
| NO MIGRATION VARIANCE PETITION | ID NYD | | | | |
| WASTE MATRIX CODE | - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

Site **IDC's** ID-EGG-134T-201

Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 65 |
| Projected | 0 |
| Total | 65 |

EPA CODE(s)

D008C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| Organics | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---|-------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | IN-W287 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | MISCELLANEOUS (PAPER, METAL, ETC.) (TRU): CUT UP GLOVEBOXES | | | | |
| NO MIGRATION VARIANCE PETITION | ID NYD | | | | |
| WASTE MATRIX CODE | - Site | 5100 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unspecified Metal Waste | | TRUCON | Information Incomplete |

DC's

Site ID-EGG-134T-101

Assigned AE-121

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 212 |
| Projected | 0 |
| Total | 212 |

EPA CODE(s)

| |
|-------|
| D008C |
| D008A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 405.26 | 213.16 | 42.11 |
| | Aluminum-Based Metals/Alloys | 73.68 | 34.21 | 0.00 |
| | Other Metals | 44.21 | 15.79 | 0.00 |
| | Other Materials | 141.05 | 33.68 | 0.00 |
| | Organics | | | |
| | Celulosics | 115.00 | 56.84 | 0.00 |
| | Rubber | 2.42 | 0.63 | 0.00 |
| | Plastics | 24.21 | 5.68 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|---|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W289 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | MISCELLANEOUS (PAPER, METAL, ETC.) (TRU): DDW NONCOMBUSTIBLE SOLIDS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

DC's

Site ID-EGG-134T-121

Assigned MD-824

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 25 |
| Projected | 0 |
| Total | 25 |

EPA CODE(s)

| |
|-------|
| F002 |
| D004A |
| D005A |
| D006A |
| D007A |
| D008A |
| F001 |
| P015 |
| D009A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1528.85 | 415.63 | 2.16 |
| | Aluminum-Based Metals/Alloys | 38.22 | 17.50 | 0.00 |
| | Other Metals | 46.63 | 4.81 | 0.00 |
| | Other Materials | 812.50 | 48.08 | 0.00 |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | 4.81 | 4.81 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 13, 16, 17, 19, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W291 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | MISCELLANEOUS (PAPER, METAL, ETC.) (TRU):GENERAL PLANT WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

Site ID-EGG-134T-100
Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 770 |
| Projected | 0 |
| Total | 770 |

EPA CODE(s)

| |
|-------|
| F003 |
| D001C |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| Organics | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|-------------------------|--------------------------------|---------------------|--------|
| DATABASE WS ID | IN-W294 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | METALS (TRU): LEACHED NON SPECIAL SOURCE METAL | | | | |
| NO MIGRATION VARIANCE PETITION | ID 217 | | | | |
| WASTE MATRIX CODE | - Site | 5100 | WIPP PART B APPLICATION | METAL | |
| | - Group | Unspecified Metal Waste | | TRUCON | ID 217 |

| | |
|-----------------|-----------------|
| Site | ID-EGG-132T-481 |
| Assigned | RF-480 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 443 |
| Projected | 0 |
| Total | 443 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| D008A |
| D008C |
| F001 |
| F001 |
| F002 |
| F005 |
| D022 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | 45.27 | 7.43 | 0.00 |
| Solidified | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| | Organic Matrix | | | |
| Soils | Inorganic Matrix | | | |
| | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--|-------------------------|--------------------------------|---------------------|--------|
| DATABASE WS ID | IN-W296 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | METALS (TRU): NON SPECIAL SOURCE METAL | | | | |
| NO MIGRATION VARIANCE PETITION | ID 217 | | | | |
| WASTE MATRIX CODE | - Site | 5100 | WIPP PART B APPLICATION | METAL | |
| | - Group | Unspecified Metal Waste | | TRUCON | ID 217 |

| | |
|-----------------|-----------------|
| DC's | |
| Site | ID-EGG-132T-480 |
| Assigned | RF-480 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 5243 |
| Projected | 0 |
| Total | 5243 |

EPA CODE(s)

| |
|-------|
| F001 |
| F003 |
| D008A |
| D008C |
| D028 |
| D029 |
| F001 |
| F001 |
| F002 |
| F005A |
| F003 |
| F003 |
| F003 |
| F005A |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | 45.27 | 7.43 | 0.00 |
| Solidified | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| | Organic Matrix | | | |
| Soils | Inorganic Matrix | | | |
| | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|-------------------------|-------------------------|--------|--------------|-------|
| DATABASE WS ID | IN-W298 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | METALS (TRU): TANTALUM | | | | |
| NO MIGRATION VARIANCE PETITION | ID 217 | | | | |
| WASTE MATRIX CODE - Site | 5100 | WIPP PART B APPLICATION | METAL | | |
| - Group | Unspecified Metal Waste | | TRUCON | ID 217 | |

Site **IDC's**
 ID-EGG-132T-320
 Assigned RF-320

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 75 |
| Projected | 0 |
| Total | 75 |

EPA CODE(s)

| |
|-------|
| F001 |
| D008A |
| F001 |
| F001 |
| F002 |
| D008C |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 317.31 | 83.65 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 1586.54 | 195.19 | 0.00 |
| | Other Materials | 19.23 | 19.23 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|---------------------------|-------------------------|---------------------|--------------|-------|
| DATABASE WS ID | IN-W300 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | METALS (TRU): METAL WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 117 (3) | | | | |
| WASTE MATRIX CODE - Site | 5100 | WIPP PART B APPLICATION | METAL (UNSPECIFIED) | | |
| - Group | Unspecified Metal Waste | | TRUCON | ID 117 (3) | |

Site **IDC's**
ID-EGG-132T-117
Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1513 |
| Projected | 0 |
| Total | 1513 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| D008A |
| D008C |
| P015 |
| F002 |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Celulosics | 45.27 | 7.43 | 0.00 |
| Organics | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 25

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|---|---------------------|-------------------------|---------------------|------------------------|
| DATABASE WS ID | IN-W302 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | METALS (TRU): NONCOMPRESSIBLE, NONCOMBUSTIBLE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | METAL (UNSPECIFIED) | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

IDC's
 Site ID-EGG-132T-020
 Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 106 |
| Projected | 0 |
| Total | 106 |

EPA CODE(s)

| |
|-------|
| F002 |
| F001 |
| D002B |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|------------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | Celulosics | 184.81 | 80.91 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 13, 16, 17, 19, 21, 23

WASTE STREAM PROFILES

(CONTINUED)

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29-Jun-94

| | | | | | |
|--------------------------------|-----------------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W306.1 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCATEGORIZED (TRU): PRE 73 DRUMS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

| | |
|----------|------------------|
| DC's | |
| Site | ID-EGG-287T-9999 |
| Assigned | RF-806.2 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1906 |
| Projected | 0 |
| Total | 1906 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 18, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|-----------------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W306.2 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCATEGORIZED (TRU): PRE 73 DRUMS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Unspecified Metal Waste | TRUCON | Information Incomplete | | |

Site ID-EGG-287T-9999
Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 3119 |
| Projected | 0 |
| Total | 3119 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Celulosics | 45.27 | 7.43 | 0.00 |
| Organics | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 18, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|-----------------------------------|---------------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W306.3 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCATEGORIZED (TRU): PRE 73 DRUMS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

IDC's
 Site ID-EGG-287T-9999
 Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 3465 |
| Projected | 0 |
| Total | 3465 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| Organics | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 18, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|-----------------------------------|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W306.4 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCATEGORIZED (TRU): PRE 73 DRUMS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Filter Waste | TRUCON | Information Incomplete | |

Site ID-EGG-287T-9999
Assigned RF-335

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1040 |
| Projected | 0 |
| Total | 1040 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 500.00 | 168.27 | 48.08 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 18, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W308 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCATEGORIZED (TRU): NOT RECORDED - UNKNOWN | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Unknown Waste | TRUCON | Information Incomplete | | |

Site ID-EGG-287T-000
Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 4140 |
| Projected | 0 |
| Total | 4140 |

EPA CODE(s)

UNK

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | |
|---------------------|------------------|--------|--|
| Inorganics | Iron-Based | | |
| | Metals/Alloys | | |
| | Aluminum-Based | | |
| | Metals/Alloys | | |
| | Other Metals | | |
| | Other Materials | | |
| Organics | Celulosics | | |
| | Rubber | | |
| | Plastics | | |
| Solidified | Organic Matrix | | |
| | Inorganic Matrix | | |
| Soils | Soil | | |
| Packaging Materials | Steel | 141.83 | |
| | Plastic | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|-----------------|--------------------------------|------------------------------|-------|
| DATABASE WS ID | IN-W311 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | SALTS (TRU): MOLTEN SALTS - 30% UNPULVERIZED | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3140 | WIPP PART B APPLICATION | PYROCHEMICAL SALT (UNSPECIFI | |
| | - Group | Salt Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-146T-409

Assigned RF-429

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 7 |
| Projected | 0 |
| Total | 7 |

EPA CODE(s)

| |
|------|
| F001 |
| D028 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------|--------|--------|-------|
| Inorganics | Iron-Based | 14.42 | 12.02 | 0.48 |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | 567.30 | 216.30 | 48.10 |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------------------|-----------------|--------------------------------|------------------------------|-------|
| DATABASE WS ID | IN-W312 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | SALTS (TRU): PYROCHEMICAL SALT WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3140 | WIPP PART B APPLICATION | PYROCHEMICAL SALT (UNSPECIFI | |
| | - Group | Salt Waste | TRUCON | Information Incomplete | |

Site ID-EGG-146T-124
Assigned RF-411

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 3 |
| Projected | 0 |
| Total | 3 |

EPA CODE(s)

D003D

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 101.57 | 101.57 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|-----------------|--------------------------------|------------------------------|-------|
| DATABASE WS ID | IN-W314 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | SALTS (TRU): DIRECT OXIDE REDUCTION SALT | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3140 | WIPP PART B APPLICATION | PYROCHEMICAL SALT (UNSPECIFI | |
| | - Group | Salt Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-146T-414

Assigned RF-454

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

F001

| WASTE PARAMETERS (kg/m ³) | | Max | Avg | Min |
|---------------------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 14.42 | 12.02 | 4.81 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 584.33 | 216.35 | 46.63 |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|-------------------------------|-----------------|--------------------------------|------------------------------|-------|
| DATABASE WS ID | IN-W315 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | SALTS (TRU): EVAPORATOR SALTS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3140 | WIPP PART B APPLICATION | PYROCHEMICAL SALT (UNSPECIFI | |
| | - Group | Salt Waste | TRUCON | Information Incomplete | |

DC's

Site ID-EGG-146T-005

Assigned RF-429

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

D001C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 14.42 | 12.02 | 0.48 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 567.30 | 216.30 | 48.10 |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--|--------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | IN-W317 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | RESINS (TRU): LEACHED AND CEMENTED RESIN | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Organic Waste | | TRUCON | Information Incomplete |

Site ID-EGG-145T-432
Assigned RF-806.1

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 52 |
| Projected | 0 |
| Total | 52 |

EPA CODE(s)

| |
|-------|
| F002 |
| F001 |
| F001 |
| F001 |
| D008A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 2012.02 | 625.00 | 164.90 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 19, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|-----------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W319 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | RESINS (TRU): LEACHED RESIN | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3115 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Organic Waste | TRUCON | Information Incomplete | | |

Site ID-EGG-145T-431
Assigned RF-806.1

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)
D001C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 2012.02 | 625.00 | 164.90 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 19, 21, 22, 23,

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|--------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W321 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | RESINS (TRU): UNLEACHED ION COLUMN RESIN | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3115 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Organic Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-145T-430

Assigned RF-806.1

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 11 |
| Projected | 0 |
| Total | 11 |

EPA CODE(s)

D001A

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 2012.02 | 625.00 | 164.90 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 19, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W323 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | RADIOACTIVE SOURCES (TRU): COMBUSTIBLE LAB WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5440 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

DC's

Site ID-EGG-144T-153

Assigned AE-120

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)

D008C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 63.16 | 36.84 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 10.53 | 2.63 | 0.00 |
| | | | | |
| Organics | Celulosics | 450.95 | 213.16 | 47.37 |
| | Rubber | 7.16 | 2.37 | 0.00 |
| | Plastics | 57.26 | 21.32 | 1.58 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---------------------------------|-------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W325 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU); CLASSIFIED PARTS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5300 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Combustible Waste | TRUCON | Information Incomplete | |

Site ID-EGG-288T-815
Assigned MD-827

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.32 | 0.24 | 0.00 |
| | Other Materials | 17.31 | 17.31 | 0.00 |
| Organics | Celulosics | 918.75 | 63.03 | 0.00 |
| | Rubber | 212.02 | 19.18 | 0.00 |
| | Plastics | 1060.10 | 191.83 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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29-Jun-94

| | | | | | |
|--------------------------------|--|-------------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W327 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): LOW SPECIFIC ACTIVITY < 100 nCi/g COMBUSTIBLE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5300 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Combustible Waste | TRUCON | Information Incomplete | |

Site **IDC's**
 ID-EGG-288T-847
 Assigned MD-827

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 4 |
| Projected | 0 |
| Total | 4 |

EPA CODE(s)
 UNK

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.32 | 0.24 | 0.00 |
| | Other Materials | 17.31 | 17.31 | 0.00 |
| Organics | Celulosics | 918.75 | 63.03 | 0.00 |
| | Rubber | 212.02 | 19.18 | 0.00 |
| | Plastics | 1060.10 | 191.83 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|---|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W329 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): LOW SPECIFIC ACTIVITY < 100 nCi/g NONCOMBUSTIBLE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **DC's** ID-EGG-288T-848

Assigned MD-824

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|------------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1528.85 | 415.63 | 2.16 |
| | Aluminum-Based Metals/Alloys | 38.22 | 17.50 | 0.00 |
| | Other Metals | 46.63 | 4.81 | 0.00 |
| | Other Materials | 812.50 | 48.08 | 0.00 |
| | Organics | Celulosics | | |
| | Rubber | | | |
| | Plastics | 4.81 | 4.81 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|-------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W330 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): PLASTIC, TYGON, MANIPULATOR BOOTS, ETC. | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5310 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Combustible Waste | TRUCON | Information Incomplete | |

Site ID-EGG-288T-801
Assigned MD-827

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 7 |
| Projected | 0 |
| Total | 7 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.32 | 0.24 | 0.00 |
| | Other Materials | 17.31 | 17.31 | 0.00 |
| Organics | Celulosics | 918.75 | 63.03 | 0.00 |
| | Rubber | 212.02 | 19.18 | 0.00 |
| | Plastics | 1060.10 | 191.83 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|-------------------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W332 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): SOLIDIFIED SOLUTIONS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3150 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

Site **IDC's**
 ID-EGG-288T-204
 Assigned BC-204

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)
 UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1102.40 | 1102.40 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|-------------------------------------|---------------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W334 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): PAPER, METALS, GLASS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

Site **IDC's**
 ID-EGG-288T-203
 Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 6 |
| Projected | 0 |
| Total | 6 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|------------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | Celulosics | 184.81 | 80.91 |
| Rubber | | 17.88 | 7.36 | 0.00 |
| Plastics | | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|-----------------------------------|-------------------------|----------------------------|--------------|-------|
| DATABASE WS ID | IN-W336 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): COMBUSTIBLE SOLIDS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5300 | WIPP PART B APPLICATION | COMBUSTIBLES (UNSPECIFIED) | | |
| - Group | Combustible Waste | TRUCON | Information Incomplete | | |

Site **IDC's**
 ID-EGG-288T-202
 Assigned RF-831

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 4 |
| Projected | 0 |
| Total | 4 |

EPA CODE(s)

UNK

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| | Organics | | | |
| | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

29-Jun-94

| | | | | | |
|---------------------------------------|---------------------------------|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W337 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): AMERICIUM SOLIDS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

DC's

Site ID-EGG-288T-200

Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

UNK

| <u>WASTE PARAMETERS (kg/m3)</u> | | <u>Max</u> | <u>Avg</u> | <u>Min</u> |
|---------------------------------|------------------------------|------------|------------|------------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | Celulosics | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--|---------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W338 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): ANL-W ANALYTICAL CHEMISTRY LABORATORY COLD-LINE ABSORBED LIQUID, MI | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

Site **IDC's**
 ID-EGG-288T-163
 Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------|-----|--------|-----|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W339 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): ANL-W FMF EFL ZR-U FUEL CASTING ALLOYS RESIDUES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

Site ID-EGG-288T-162
Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 9 |
| Projected | 0 |
| Total | 9 |

EPA CODE(s)

UNK

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|----------------------------|------------------------------|--|--------|--|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | | | |
|----------|--------------------------------|--|---------------|-------------------------|------------------------|--------------|-------|
| P | DATABASE WS ID | IN-W341 | | HANDLING | RH | FIELD OFFICE | Idaho |
| | WS NAME | UNKNOWN (TRU); ANL-W HFEF ANALYTICAL CHEMISTRY AND METALLOGRAPHIC COMBUSTIBLES | | | | | |
| | NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | | |
| | WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | | |
| | | - Group | Unknown Waste | TRUCON | Information Incomplete | | |

Site ID-EGG-288T-160
Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

UNK

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|---------------------|------------------|--|--------|--|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--------------------------------------|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W342 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): MISCELLANEOUS SOURCES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

Site ID-EGG-288T-157
Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)
UNK

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|----------------------------|------------------|--|--------|--|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------|---------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W345 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): TRU SCRAP | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

IDC's
Site ID-EGG-288T-155
Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 15 |
| Projected | 0 |
| Total | 15 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---------------------------------|----------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | IN-W347 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): ABSORBED LIQUIDS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3113 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

Site ID-EGG-288T-102
Assigned AE-131

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 54 |
| Projected | 0 |
| Total | 54 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 461.54 | 418.27 | 370.19 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W349 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU); TRU-REMOTE HANDLED WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

IDC's
Site ID-EGG-288T-107
Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 6 |
| Projected | 0 |
| Total | 6 |

EPA CODE(s)

UNK

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------|-----|--------|-----|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--|---------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W350 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): SPECIAL SOURCE MATERIAL | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

Site ID-EGG-288T-106
Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

UNK

WASTE PARAMETERS (kg/m3)

Max

Avg

Min

| | | | |
|---------------------|------------------------------|--------|--|
| Inorganics | Iron-Based Metals/Alloys | | |
| | Aluminum-Based Metals/Alloys | | |
| | Other Metals | | |
| | Other Materials | | |
| Organics | Celulosics | | |
| | Rubber | | |
| | Plastics | | |
| Solidified | Organic Matrix | | |
| | Inorganic Matrix | | |
| Soils | Soil | | |
| Packaging Materials | Steel | 141.83 | |
| | Plastic | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES

(CONTINUED)

CAO-94-1005, Rev. 0

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| | | | | | |
|---------------------------------------|------------------------------|---------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W351 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): EMPTY BOTTLES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

IPC's

Site ID-EGG-288T-105

Assigned AE-110

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 14.42 | 4.81 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 19.23 | 4.81 | 0.00 |
| | Organics | | | |
| | Celulosics | 458.65 | 287.69 | 43.27 |
| | Rubber | 8.65 | 3.27 | 0.00 |
| | Plastics | 60.58 | 35.96 | 1.44 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|---------------------------|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W354 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | SALTS (TRU): GIBSON SALTS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3140 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Salt Waste | TRUCON | Information Incomplete | |

Site ID-EGG-146TN-412
Assigned RF-411

WASTE VOLUMES (cu. m.)

| | |
|--------------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

NA

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 101.57 | 101.57 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | | | |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 17, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|-----------------------------------|------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W355 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | SALTS (TRU): ELECTROREFINING SALT | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3140 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Salt Waste | TRUCON | Information Incomplete | |

Site ID-EGG-146TN-411
Assigned RF-411

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 101.57 | 101.57 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W356 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | SALTS (TRU): MOLTEN SALTS-30% PULVERIZED | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3140 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Salt Waste | TRUCON | Information Incomplete | |

Site IDC's
ID-EGG-146TN-410
Assigned RF-411

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 0 |
| Total | 5 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 101.57 | 101.57 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | | | |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|---|----------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W357 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | PARTICULATE WASTES (TRU): FLUID BED ASH | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3111 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

Site ID-EGG-141TN-425
Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

NA

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Solidified | Soils | | | |
| | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 14, 17, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|---|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W358 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | RADIOACTIVE SOURCES (TRU): PU NEUTRON SOURCES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5000 | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **IDC's**
 ID-EGG-144TN-152
 Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 0 |
| Total | 5 |

EPA CODE(s)

NA

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|---------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W359 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | RADIOACTIVE SOURCES (TRU): NEUTRON SOURCES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

Site **ID-EGG-144TN-015**
Assigned **UNK**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|---------------------|------------------|--|--------|--|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14 17, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W360 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | RADIOACTIVE SOURCES (TRU): MISCELLANEOUS SOURCES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 8200 | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Unknown Waste | TRUCON | Information Incomplete | | |

Site **IDC's**
 ID-EGG-144TN-012
 Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------|-----|--------|-----|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Organic Matrix | | | |
| Solidified | Inorganic Matrix | | | |
| | | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--------------------------------|----------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W361 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | PARTICULATE WASTES (TRU): SOOT | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3111 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

Site ID-EGG-141TN-422
Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 0 |
| Total | 5 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 14, 17, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|------------------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W362 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | PARTICULATE WASTE (TRU): ASH HEELS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3111 | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

Site **IDC's**
 ID-EGG-141TN-421
 Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 21 |
| Projected | 0 |
| Total | 21 |

EPA CODE(s)
 NA

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|----------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W363 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | PARTICULATE WASTES (TRU): VIRGIN INCINERATOR ASH | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3111 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

Site ID-EGG-141TN-420
Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)
NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--|--------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W364 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): SAND, SLAG, AND CRUCIBLE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3000 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Solidified Organic Waste | TRUCON | Information Incomplete | |

IDC's
Site ID-EGG-137TN-392
Assigned RF-806.1

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|---------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Organic Matrix | 2012.02 | 625.00 | 164.90 |
| Solidified | Inorganic Matrix | | | |
| | | | | |
| Soils | Soil | | | |
| | | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|--------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W365 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): CRUCIBLES AND SAND | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3000 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Solidified Organic Waste | TRUCON | Information Incomplete | |

Site ID-EGG-137TN-391
Assigned RF-806.1

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 0 |
| Total | 5 |

EPA CODE(s)
NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 2012.02 | 625.00 | 164.90 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|--|----------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W366 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): LECO CRUCIBLES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3000 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

Site ID-EGG-137TN-370

Assigned RF-370

WASTE VOLUMES (cu. m.)

| | | |
|-------------|--|---|
| Retrievable | | 3 |
| Projected | | 0 |
| Total | | 3 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | Max | Avg | Min |
|------------------------------|--------|--------|------|
| Inorganics | | | |
| Iron-Based Metals/Alloys | | | |
| Aluminum-Based Metals/Alloys | | | |
| Other Metals | | | |
| Other Materials | 528.85 | 528.85 | 0.00 |
| Organics | | | |
| Celulosics | | | |
| Rubber | | | |
| Plastics | | | |
| Solidified | | | |
| Organic Matrix | | | |
| Inorganic Matrix | | | |
| Soils | | | |
| Soil | | | |
| Packaging Materials | | | |
| Steel | | 141.83 | |
| Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27.

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|--|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W367 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): GRAPHITE HEELS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5340 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Graphite Waste | TRUCON | Information Incomplete | |

Site ID-EGG-137TN-311

Assigned RF-303

WASTE VOLUMES (cu. m.)

| | |
|--------------|----------|
| Retrievable | 4 |
| Projected | 0 |
| Total | 4 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 1673.08 | 115.38 | 0.00 |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|--|--------------------------------|------------------------|---------------------|-------|
| DATABASE WS ID | IN-W368 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): GRAPHITE SCARFINGS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5340 | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Graphite Waste | TRUCON | Information Incomplete | | |

Site ID-EGG-137TN-310

Assigned RF-303

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 3 |
| Projected | 0 |
| Total | 3 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 1673.08 | 115.38 | 0.00 |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W369 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): SCARFED GRAPHITE CHUNKS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5340 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Graphite Waste | TRUCON | Information Incomplete | |

DC's

Site ID-EGG-137TN-303

Assigned RF-303

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 12 |
| Projected | 0 |
| Total | 12 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|---------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 1673.08 | 115.38 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W370 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): GRAPHITE WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5340 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Graphite Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-137TN-115

Assigned RF-303

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 67 |
| Projected | 0 |
| Total | 67 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 1673.08 | 115.38 | 0.00 |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--|-------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W371 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | METALS (TRU): ZINC MAGNESIUM ALLOY METAL | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5100 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Unspecified Metal Waste | TRUCON | Information Incomplete | |

DC's

Site ID-EGG-132TN-416

Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

NA

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Celulosics | 45.27 | 7.43 | 0.00 |
| Organics | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|-----------------------------------|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W372 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | METALS (TRU): MET SAMPLES FISSILE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-132TN-081

Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 4 |
| Projected | 0 |
| Total | 4 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|----------------------------|------------------|--|--------|--|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---------------------------------|----------------------------|--------------------------------|---------------------|------------------------|
| DATABASE WS ID | IN-W373 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | FILTERS (TRU): INSULATION HEELS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3000 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

Site ID-EGG-118TN-361
Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

NA

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---|---------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W374 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CONCRETE - BRICK (TRU): CONCRETE, ASPHALT, ETC. | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | Site | 5210 | WIPP PART B APPLICATION | Not Applicable | |
| | Group | Inorganic Non-metal Waste | TRUCON | Information Incomplete | |

Site ID-EGG-115TN-960
Assigned RF-374

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 10 |
| Projected | 0 |
| Total | 10 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 3072.12 | 584.13 | 0.00 |
| Organics | Celulosics | 12.02 | 12.02 | 0.00 |
| | Rubber | | | |
| | Plastics | 12.02 | 12.02 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | 144.23 | 64.90 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | KA-T01 | HANDLING | CH | FIELD OFFICE | Naval Reacto |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|--------------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|---------------------|--------------------------------|------------------------|--------------|
| DATABASE WS ID | KA-W016 | HANDLING | RH | FIELD OFFICE | Naval Reacto |
| WS NAME | TRANSURANIC DEBRIS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------------|
| DC's | |
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 11 |
| Projected | 25 |
| Total | 36 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| Organics | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes:

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | LA-T01 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | LA-003 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-------|
| Retrievable | 1745 |
| Projected | 9731 |
| Total | 11476 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | 1105.77 | 1004.81 | 759.62 |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|----|----------------|------------------------|
| DATABASE WS ID | LA-T02 | HANDLING | RH | FIELD OFFICE | Albuquerque |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

| | |
|----------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 78 |
| Projected | 930 |
| Total | 1008 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| Organics | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | LA-T03 | HANDLING | CH | FIELD OFFICE | |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 582 |
| Projected | 3244 |
| Total | 3825 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|----------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | LA-W034 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | SCRAP METAL - SODIUM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 6290 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

Site Not Reported

Assigned LA-002

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 110 |
| Projected | 18 |
| Total | 128 |

EPA CODE(s)

D003D

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | 736.84 | 736.84 | 0.00 |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 7, 16, 17, 21, 22, 23,

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|------------------------|-------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | LA-W035 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | DEBRIS-BARIUM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5190 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unspecified Metal Waste | | TRUCON | Information Incomplete |

Site **Not Reported**

Assigned **LA-005**

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 15 |
| Projected | 0 |
| Total | 15 |

EPA CODE(s)

D005A

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 931.37 | 254.42 | 0.00 |
| | Aluminum-Based Metals/Alloys | 9.86 | 2.69 | 0.00 |
| | Other Metals | 44.45 | 12.14 | 0.00 |
| | Other Materials | 5.29 | 0.96 | 0.00 |
| | Organics | | | |
| | Celulosics | 0.12 | 0.06 | 0.00 |
| | Rubber | 180.31 | 88.71 | 0.00 |
| | Plastics | 0.02 | 0.01 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | | |
|----------|---------------------------------------|---------------------------------|----------------------------|--------------------------------|------------------------|------------------------|
| P | DATABASE WS ID | LA-W036 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| | WS NAME | PROCESS RESIDUE - CHROMIUM/LEAD | | | | |
| | NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| | WASTE MATRIX CODE | - Site | 9100 | WIPP PART B APPLICATION | Information Incomplete | |
| | | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | LA-006 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 116 |
| Projected | 2 |
| Total | 118 |

EPA CODE(s)

D007A

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|---------|---------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1288.27 | 1226.73 | 1216.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 2, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|---------------------------|--------------------------|--------------------------------|------------------------|-------------|
| DATABASE WS ID | LA-W037 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | LEAD SHIELDING AND DEBRIS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5120 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-321 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 2051 |
| Projected | 1824 |
| Total | 3874 |

EPA CODE(s)

D008C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | LA-W038 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | CEMENTED PROCESS SLUDGE, DEBRIS - LEAD | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 9100 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------------|
| IPC's | |
| Site | Not Reported |
| Assigned | LA-006 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 15 |
| Projected | 127 |
| Total | 143 |

EPA CODE(s)

D008A

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|---------|---------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1288.27 | 1226.73 | 1216.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 2, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------------------|---------------------|--------------------------------|------------------------|-------------|
| DATABASE WS ID | LA-W039 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | DECONTAMINATION WASTE - F001, F002 | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5490 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | LA-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 276 |
| Projected | 1433 |
| Total | 1710 |

EPA CODE(s)

| |
|------|
| F002 |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|-------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 0.04 | 0.04 | 0.00 |
| | Aluminum-Based Metals/Alloys | 0.36 | 0.36 | 0.00 |
| | Other Metals | 18.18 | 18.18 | 0.00 |
| | Other Materials | 6.84 | 6.84 | 0.00 |
| | Organics | 68.70 | 62.07 | 0.00 |
| Organics | Celulosics | 1.16 | 1.05 | 0.00 |
| | Rubber | 5.72 | 5.17 | 0.00 |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | LA-W040 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | CEMENTED PROCESS SLUDGE - CR, SOLVENTS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 9100 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

Site **Not Reported**

Assigned **LA-003**

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 184 |
| Projected | 230 |
| Total | 414 |

EPA CODE(s)

| |
|-------|
| F005A |
| F001 |
| F002 |
| D007A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | 1105.77 | 1004.81 | 759.62 |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 2, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|------------------------|-------------|
| DATABASE WS ID | LA-W041 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | DEWATERED TREATMENT SLUDGES - F001,2,5 | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 9100 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete | |

Site **Not Reported**
Assigned **LA-003**

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1088 |
| Projected | 0 |
| Total | 1088 |

EPA CODE(s)

| |
|-------|
| F001 |
| F005A |
| F002 |

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|---------------------|------------------|---------|---------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Organic Matrix | | | |
| Solidified | Inorganic Matrix | 1105.77 | 1004.81 | 759.62 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 2, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|--------------------------|--------------------------------|------------------------|-------------|
| DATABASE WS ID | LA-W042 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | LEAD WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5120 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | |

IDC's

Site Not Reported

Assigned RF-321

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 159 |
| Projected | 0 |
| Total | 159 |

EPA CODE(s)

D008C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|-----------------------------|----------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | LA-W045 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | DEWATERED TREATMENT SLUDGES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 9100 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

Site Not Reported
Assigned LA-003

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 148 |
| Projected | 0 |
| Total | 148 |

EPA CODE(s)

| |
|-------|
| F001 |
| F002 |
| F005A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------|---------|---------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1105.77 | 1004.81 | 759.62 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 2, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | LB-T01 | HANDLING | CH | FIELD OFFICE | San Francisc |
| WS NAME | NON MIXED TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Unknown Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 2 |
| Total | 2 |

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|----------------------------|------------------|--|--------|--|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 20, 21, 22, 27,

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | LL-T01 | HANDLING | CH | FIELD OFFICE | Oakland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 111 |
| Projected | 810 |
| Total | 920 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|-----|--------|-----|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | LL-T02 | HANDLING | CH | FIELD OFFICE | Oakland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 111 |
| Projected | 810 |
| Total | 920 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|-----|--------|-----|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|---------------------------|--------------------------|--------------------------------|------------------------|---------|
| DATABASE WS ID | LL-W018 | HANDLING | CH | FIELD OFFICE | Oakland |
| WS NAME | TRU MIXED INORGANIC METAL | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5120 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | |

Site **Not Reported**

Assigned **RF-480**

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 1 |
| Projected | 28 |
| Total | 29 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Celulosics | 45.27 | 7.43 | 0.00 |
| Organics | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| | Organic Matrix | | | |
| Solidified | Inorganic Matrix | | | |
| | Soils | | | |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | LL-W019 | HANDLING | CH | FIELD OFFICE | Oakland |
| WS NAME | TRU MIXED HALOGENATED SOLVENTS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 2110 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Organic Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-801 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 1 |
| Projected | 21 |
| Total | 22 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 1, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|-------------------------|----------------------------|--------------------------------|------------------------|---------|
| DATABASE WS ID | LL-W020 | HANDLING | CH | FIELD OFFICE | Oakland |
| WS NAME | TRU MIXED SULFURIC ACID | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 1210 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-800 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 2 |
| Projected | 42 |
| Total | 44 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 1, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | MD-T01 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

Site Not Reported
Assigned RF-801

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 85 |
| Projected | 28 |
| Total | 113 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 18, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----------------|------------------------|-------------|
| DATABASE WS ID | MD-T02 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | Not Applicable | | |
| | - Group | Combustible Waste | TRUCON | Information Incomplete | |

Site **Assigned**

Site Not Reported

Assigned RF-321

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 57 |
| Projected | 28 |
| Total | 85 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|----------------------------|--------------------------------|------------------------|-------------|
| DATABASE WS ID | MD-W002 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | CORROSIVES - TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3113 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

DC's
Site MD-833
Assigned MD-836

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)

D002B

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | 630.29 | 630.29 | 0.00 |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|------------------------|-------------------|--------------------------------|------------------------|-------------|
| DATABASE WS ID | MD-W003 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | LEAD - TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5311 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Combustible Waste | TRUCON | Information Incomplete | |

DC's

Site MD-835

Assigned RF-339

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

D008A

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 504.81 | 254.81 | 0.00 |
| | Other Materials | 144.23 | 28.85 | 0.00 |
| Organics | Celulosics | 10.10 | 5.77 | 0.00 |
| | Rubber | 464.42 | 265.38 | 0.00 |
| | Plastics | 30.29 | 17.31 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|------------------------|-------------------------|------------------------|--------------|---------|
| DATABASE WS ID | MU-W002 | HANDLING | CH | FIELD OFFICE | Oakland |
| WS NAME | Mixed TRU Waste | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **DC's** OR-125A

Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 1 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|------------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | Celulosics | 184.81 | 80.91 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|---------------------------------|-------------------------|--------|----------------|--------|
| DATABASE WS ID | NT-W001 | HANDLING | CH | FIELD OFFICE | Nevada |
| WS NAME | NTS STORED, TRU WASTE FROM LLNL | | | | |
| NO MIGRATION VARIANCE PETITION | NT 111, NT 211 | | | | |
| WASTE MATRIX CODE - Site | 5400 | WIPP PART B APPLICATION | NR | | |
| - Group | Heterogeneous Waste | | TRUCON | NT 111, NT 211 | |

Site **LL-002**

Assigned **OR-001**

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 612 |
| Projected | 0 |
| Total | 612 |

EPA CODE(s)

| |
|-------|
| D001A |
| CA352 |
| CA352 |
| CA352 |
| CA352 |
| CA181 |
| CA181 |
| CA181 |
| CA181 |
| CA181 |
| CA181 |
| D001C |
| P015 |
| D001A |
| D002B |
| D003D |
| D006A |
| D008C |
| D007A |
| D011A |
| F001 |
| F001 |
| F001 |
| F002 |
| F003 |
| CA181 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|------------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | Celulosics | 184.81 | 80.91 |
| Rubber | | 17.88 | 7.36 | 0.00 |
| Plastics | | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|-----------|
| DATABASE WS ID | OR-T01 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 29 |
| Projected | 37 |
| Total | 66 |

| <u>WASTE PARAMETERS (kg/m3)</u> | | <u>Max</u> | <u>Avg</u> | <u>Min</u> |
|---------------------------------|------------------------------|------------|------------|------------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | Celulosics | 184.81 | 80.91 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | OR-T02 | HANDLING | RH | FIELD OFFICE | Oak Ridge |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Unknown Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 44 |
| Projected | 49 |
| Total | 93 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 18, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|-----------|
| DATABASE WS ID | OR-T03 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------|
| Site | DC's |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 258 |
| Projected | 336 |
| Total | 594 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 18, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|----|----------------|------------------------|
| DATABASE WS ID | OR-T04 | HANDLING | RH | FIELD OFFICE | Oak Ridge |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

| | |
|----------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 36 |
| Projected | 40 |
| Total | 76 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|------------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | Celulosics | 184.81 | 80.91 |
| Rubber | | 17.88 | 7.36 | 0.00 |
| Plastics | | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15,17, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|-----------------------------|---------------------|--------------------------------|---------------------|-----------|
| DATABASE WS ID | OR-W040 | HANDLING | RH | FIELD OFFICE | Oak Ridge |
| WS NAME | RH-TRU Heterogeneous Debris | | | | |
| NO MIGRATION VARIANCE PETITION | OR 125 (3) | | | | |
| WASTE MATRIX CODE | - Site | 5400 | WIPP PART B APPLICATION | NR | |
| | - Group | Heterogeneous Waste | TRUCON | OR 125 (3) | |

Site 2039
Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 462 |
| Projected | 198 |
| Total | 660 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| Organics | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 23, 25

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|----------------------------|--------------------------------|------------------------|-----------|
| DATABASE WS ID | OR-W042 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | Inactive Storage Tank Contents - MTRU Sludge | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3120 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

DC's

Site 2041

Assigned RF-800

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 110 |
| Projected | 0 |
| Total | 110 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|-----------------------------|---------------------|--------------------------------|------------------------|-----------|
| DATABASE WS ID | OR-W044 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | CH-TRU Heterogeneous Debris | | | | |
| NO MIGRATION VARIANCE PETITION | OR 125 (3) | | | | |
| WASTE MATRIX CODE | - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | OR 125 (3) | |

Site 2043
Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 511 |
| Projected | 273 |
| Total | 784 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| Organics | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 23, 25

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|----------------------|----------------------------|-------------------------|------------------------|------------|
| DATABASE WS ID | OR-W045.1 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | CH-TRU Uncategorized | | | | |
| NO MIGRATION VARIANCE PETITION | OR 125 (3) | | | | |
| WASTE MATRIX CODE | - Site | 8000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | | TRUCON | OR 125 (3) |

Site **2044**

Assigned **OR-001**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 23, 25

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|----------------------|---------------------|--------------------------------|------------------------|-----------|
| DATABASE WS ID | OR-W045.2 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | CH-TRU Uncategorized | | | | |
| NO MIGRATION VARIANCE PETITION | OR 125 | | | | |
| WASTE MATRIX CODE | - Site | 8000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | | TRUCON | OR 125 |

| | |
|-----------------|--------|
| Site | 2044 |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 0 |
| Total | 5 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | | | | |
| Organics | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 23, 25

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|---|----------------------------|--------------------------------|------------------------|-----------|
| DATABASE WS ID | OR-W046 | HANDLING | RH | FIELD OFFICE | Oak Ridge |
| WS NAME | Liquid Low Level Waste Storage Tanks - Sludge | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------|
| Site | 2045 |
| Assigned | RF-800 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 605 |
| Projected | 180 |
| Total | 785 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Organic Matrix | | | |
| Solidified | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| | | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 1, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

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| | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------|-----------|
| DATABASE WS ID | OR-W047 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | CH-TRU Heterogeneous Debris (With Liquids) | | | | |
| NO MIGRATION VARIANCE PETITION | OR 125 (3) | | | | |
| WASTE MATRIX CODE | - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | OR 125 (3) | |

| | |
|-----------------|--------|
| Site | 2046 |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 155 |
| Projected | 0 |
| Total | 155 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 23, 25

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|----------------------------|-------------------------|------------------------|--------------|-----------|
| DATABASE WS ID | PA-W014 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | TRANSURANIC WASTE LIQUID | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 1200 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

Site **14**

Assigned **RF-800**

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 19 |
| Projected | 0 |
| Total | 19 |

EPA CODE(s)

| |
|-------|
| D007A |
| D002B |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 1, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------|-----------------|--------------------------------|------------------------|-----------|
| DATABASE WS ID | PA-W015 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | TRU AND TECHNETIUM WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

Site 15
Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 6 |
| Projected | 0 |
| Total | 6 |

EPA CODE(s)

D007A

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|----------------------------|------------------|--|--------|--|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----------------|------------------------|-------------|
| DATABASE WS ID | RF-T01 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | Not Applicable | | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-806.2 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1258 |
| Projected | 1124 |
| Total | 2382 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|----------------|------------------------|-------------|
| DATABASE WS ID | RF-T02 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Unspecified Metal Waste | | TRUCON | Information Incomplete | |

| | |
|----------|--------------|
| Site | Not Reported |
| Assigned | RF-320 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 362 |
| Projected | 312 |
| Total | 674 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 317.31 | 83.65 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 1586.54 | 195.19 | 0.00 |
| | Other Materials | 19.23 | 19.23 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | RF-T03 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Combustible Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------------|
| Site | Not Reported |
| Assigned | RF-321 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 239 |
| Projected | 187 |
| Total | 426 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | RF-T04 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-480 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1256 |
| Projected | 1062 |
| Total | 2317 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| Organics | Celulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | RF-T05 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Filter Waste | TRUCON | Information Incomplete | | |

Site Not Reported

Assigned RF-490

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 486 |
| Projected | 437 |
| Total | 924 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 429.82 | 429.82 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | 8.77 | 8.77 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---------------------------|---------------------------|--------------------------------|-----------------------|-------------|
| DATABASE WS ID | RF-W008 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Soil & Cleanup Debris/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 121 | | | | |
| WASTE MATRIX CODE | - Site | 5290 | WIPP PART B APPLICATION | BENELEX AND PLEXIGLAS | |
| | - Group | Inorganic Non-metal Waste | | TRUCON RF 121 | |

Site RF-374
Assigned RF-374

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)

| |
|-------|
| F005A |
| F002 |
| F001 |
| D008A |
| D007A |
| D006A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 3072.12 | 584.13 | 0.00 |
| Organics | Celulosics | 12.02 | 12.02 | 0.00 |
| | Rubber | | | |
| | Plastics | 12.02 | 12.02 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | 144.23 | 64.90 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------|----------------------------|--------------------------------|----------------------------|-------------|
| DATABASE WS ID | RF-W010 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Aqueous Sludge/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 111 | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | INORGANIC WASTE WATER TREA | |
| | - Group | Solidified Inorganic Waste | | TRUCON | RF 111 |

Site RF-800
Assigned RF-800

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 143 |
| Projected | 14 |
| Total | 157 |

EPA CODE(s)

| |
|-------|
| F001 |
| F002 |
| D006A |
| F001 |
| F005A |
| F005A |
| D008A |
| F002 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Solidified Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|-----------|--------------------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W011 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Metal/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 117 | | | | |
| WASTE MATRIX CODE | - Site | 5120 | WIPP PART B APPLICATION | METAL | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | RF 117 | |

IDC's

Site RF-480

Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 73 |
| Projected | 45 |
| Total | 118 |

EPA CODE(s)

| |
|-------|
| F002 |
| F002 |
| F001 |
| F001 |
| D008C |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | 45.27 | 7.43 | 0.00 |
| Solidified | Celulosics | 67.57 | 15.09 | 0.00 |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 24

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|---------------------|-------------------------|--------------|--------------|-------------|
| DATABASE WS ID | RF-W012 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Combustibles/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 116 | | | | |
| WASTE MATRIX CODE - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES | | |
| - Group | Heterogeneous Waste | | TRUCON | RF 116 | |

IDC's
 Site RF-831
 Assigned RF-831

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 237 |
| Projected | 124 |
| Total | 361 |

EPA CODE(s)

| |
|-------|
| F002 |
| F001 |
| F002 |
| F005A |
| F005A |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|-------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 24

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|-------------------------|--------------------------|-------------------------|-----------------------|-------------|
| DATABASE WS ID | RF-W013 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Solidified Organics/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 112 | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | ORGANIC LIQUID/SLUDGE | |
| | - Group | Solidified Organic Waste | TRUCON | RF 112 | |

Site **RF-801**

Assigned **RF-801**

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 11 |
| Projected | 10 |
| Total | 21 |

EPA CODE(s)

| |
|------|
| F002 |
| F002 |
| F001 |
| F001 |

WASTE PARAMETERS (kg/m³)

| | | | | |
|---------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 19

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|---------------------|---------------------|--------------------------------|------------------------------|-------------|
| DATABASE WS ID | RF-W026 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Used Absorbents/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 122 | | | | |
| WASTE MATRIX CODE | - Site | 3119 | WIPP PART B APPLICATION | FIREBRICK AND CERAMIC CRUCIB | |
| | - Group | Heterogeneous Waste | TRUCON | RF 122 | |

DC's

Site RF-375

Assigned RF-375

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|------|
| F001 |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | 4.81 | 4.81 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 961.54 | 557.69 | 216.35 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | 38.46 | 38.46 | 0.00 |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|----------|--------------------------|-------------------------|--------------|-------------|
| DATABASE WS ID | RF-W028 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Lead/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | | RF 117 | | | |
| WASTE MATRIX CODE | - Site | 7200 | WIPP PART B APPLICATION | METAL | |
| | - Group | Lead/Cadmium Metal Waste | | TRUCON | RF 117 |

Site **RF-321**

Assigned **RF-321**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 4 |
| Projected | 3 |
| Total | 7 |

EPA CODE(s)

D008C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|-------------------|-------------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W029 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Leaded Gloves/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 123 | | | | |
| WASTE MATRIX CODE | - Site | 5311 | WIPP PART B APPLICATION | LEADED RUBBER | |
| | - Group | Combustible Waste | | TRUCON | RF 123 |

Site RF-339

Assigned RF-339

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 20 |
| Projected | 12 |
| Total | 32 |

EPA CODE(s)

D008A

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 504.81 | 254.81 | 0.00 |
| | Other Materials | 144.23 | 28.85 | 0.00 |
| Organics | Celulosics | 10.10 | 5.77 | 0.00 |
| | Rubber | 464.42 | 265.38 | 0.00 |
| | Plastics | 30.29 | 17.31 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 24

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|------------------|---------------------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W032 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Ground Glass/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 118 | | | | |
| WASTE MATRIX CODE | - Site | 3119 | WIPP PART B APPLICATION | GLASS | |
| | - Group | Inorganic Non-metal Waste | TRUCON | RF 118 | |

| | |
|-----------------|--------|
| Site | RF-444 |
| Assigned | RF-440 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 6 |
| Total | 8 |

EPA CODE(s)

D008A

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| Organics | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 19

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|------------------------------------|-------------------------|------------------------------|--------------|-------------|
| DATABASE WS ID | RF-W036 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Firebrick, Pulverized or Fines/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 122 | | | | |
| WASTE MATRIX CODE - Site | 3119 | WIPP PART B APPLICATION | FIREBRICK AND CERAMIC CRUCIB | | |
| - Group | Heterogeneous Waste | | TRUCON | RF 122 | |

Site **RF-377**

Assigned **RF-377**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 1 |
| Total | 2 |

EPA CODE(s)

| |
|-------|
| F002 |
| D004A |
| D006A |
| D007A |
| D008A |
| F001 |
| F002 |
| F005A |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 338.22 | 269.23 | 216.35 |
| Organics | Celulosics | 57.69 | 57.69 | 0.00 |
| | Rubber | | | |
| | Plastics | 38.46 | 38.46 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------|-------------------------|-------------------------|--------------|-------------|
| DATABASE WS ID | RF-W037 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Heavy Metal (non-SS)/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 117 | | | | |
| WASTE MATRIX CODE | - Site | 5190 | WIPP PART B APPLICATION | METAL | |
| | - Group | Unspecified Metal Waste | | TRUCON | RF 117 |

Site **RF-320**

Assigned **RF-320**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 0 |
| Total | 5 |

EPA CODE(s)

D008C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 317.31 | 83.65 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 1586.54 | 195.19 | 0.00 |
| | Other Materials | 19.23 | 19.23 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------|----------------------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W038 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Solidified Lab Waste/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 113 | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | SOLIDIFIED LIQUID | |
| | - Group | Solidified Inorganic Waste | | TRUCON | RF 113 |

Site RF-802
Assigned RF-802

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 1 |
| Projected | 26 |
| Total | 28 |

EPA CODE(s)

D007A

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1418.27 | 1201.92 | 519.23 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|------------------------|----------------------------|--------------------------------|------------------------|-------------|
| DATABASE WS ID | RF-W040 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Incinerator Ash/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3111 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

Site Not Reported
Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|--------------------|--|
| Retrievable | 1202 |
| Projected | 0 |
| Total | 1202 |

EPA CODE(s)

| |
|-------|
| D011A |
| D005A |
| D006A |
| D004A |
| D007A |
| D008A |
| D009A |
| D010A |
| F001 |
| F002 |
| F002 |
| |
| F001 |
| F005A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Organic Matrix | | | |
| Solidified | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 6, 8, 16, 21, 22, 23, 24

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|-------------------------------------|-------------------|--------------------------------|-----------------------------|-------------|
| DATABASE WS ID | RF-W041 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Leaded Gloves-Acid Contaminated/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5311 | WIPP PART B APPLICATION | LEADED RUBBER (UNSPECIFIED) | |
| | - Group | Combustible Waste | TRUCON | Information Incomplete | |

DC's

Site RF-341

Assigned RF-339

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 28 |
| Projected | 9 |
| Total | 37 |

EPA CODE(s)

D008A

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 504.81 | 254.81 | 0.00 |
| | Other Materials | 144.23 | 28.85 | 0.00 |
| Organics | Celulosics | 10.10 | 5.77 | 0.00 |
| | Rubber | 464.42 | 265.38 | 0.00 |
| | Plastics | 30.29 | 17.31 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22

WASTE STREAM PROFILES

(CONTINUED)

CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|-----------|---------------------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W052 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Glass/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 118 | | | | |
| WASTE MATRIX CODE | - Site | 5220 | WIPP PART B APPLICATION | GLASS | |
| | - Group | Inorganic Non-metal Waste | TRUCON | RF 118 | |

Site RF-440
Assigned RF-440

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 15 |
| Projected | 4 |
| Total | 18 |

EPA CODE(s)

| |
|-------|
| F001 |
| D005A |
| F001 |
| F002 |
| F002 |
| D008A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| | | | | |
| Organics | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 24

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|------------------------|---------------------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W056 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Mg Oxide Crucibles/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 118 | | | | |
| WASTE MATRIX CODE | - Site | 5230 | WIPP PART B APPLICATION | GLASS | |
| | - Group | Inorganic Non-metal Waste | TRUCON | RF 118 | |

Site RF-370
Assigned RF-370

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 193 |
| Projected | 0 |
| Total | 193 |

EPA CODE(s)

| |
|-------|
| D006A |
| D003D |
| D003D |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 528.85 | 528.85 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | | |
|----------|--|----------------|---------------------------|--------------------------------|------------------------------|-------------|
| P | DATABASE WS ID | RF-W057 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| | WS NAME | Insulation/TRM | | | | |
| | NO MIGRATION VARIANCE PETITION RF 122 | | | | | |
| | WASTE MATRIX CODE | - Site | 5290 | WIPP PART B APPLICATION | FIREBRICK AND CERAMIC CRUCIB | |
| | | - Group | Inorganic Non-metal Waste | | TRUCON RF 122 | |

Site RF-438
Assigned RF-438

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 4 |
| Total | 4 |

EPA CODE(s)

| |
|------|
| F001 |
| F001 |
| F002 |
| F002 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 293.27 | 194.71 | 24.04 |
| Organics | Celulosics | 9.62 | 4.81 | 1.20 |
| | Rubber | | | |
| Solidified | Plastics | | | |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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29-Jun-94

| | | | | | |
|---------------------------------------|---------------------------------|-----------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W058 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Misc Pu Recovery Byproducts/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 124 | | | | |
| WASTE MATRIX CODE | - Site | 3141 | WIPP PART B APPLICATION | PYROCHEMICAL SALT | |
| | - Group | Salt Waste | | TRUCON | RF 124 |

Site RF-411
Assigned RF-429

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 754 |
| Projected | 0 |
| Total | 754 |

EPA CODE(s)

| |
|-------|
| D002B |
| D003D |
| D007A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 14.42 | 12.02 | 0.48 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 567.30 | 216.30 | 48.10 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 24

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|------------------------------|----------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | RF-W059 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Sand, Slag, and Crucible/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | Site | 3119 | WIPP PART B APPLICATION | Information Incomplete | |
| | Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

Site Not Reported
Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|--------------|------------|
| Retrievable | 461 |
| Projected | 0 |
| Total | 461 |

EPA CODE(s)

| |
|-------|
| D007A |
| D003D |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 21, 22, 23, 24

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|---------------------|-------------------------|----------|--------------|-------------|
| DATABASE WS ID | RF-W060 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Coarse Graphite/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 115 | | | | |
| WASTE MATRIX CODE - Site | 5340 | WIPP PART B APPLICATION | GRAPHITE | | |
| - Group | Graphite Waste | TRUCON | RF 115 | | |

DC's

Site RF-303

Assigned RF-303

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| D006A |
|-------|

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 1673.08 | 115.38 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 24

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|---------------------------|----------------------------|--------------------------------|------------------------|-------------|
| DATABASE WS ID | RF-W063 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Miscellaneous Liquids/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 1190 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-800 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 36 |
| Projected | 14 |
| Total | 50 |

EPA CODE(s)

| |
|-------|
| D007A |
| D002B |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 1, 8, 16, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|------------------------|----------------------------|--------------------------------|------------------------|-------------|
| DATABASE WS ID | RF-W065 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Calcium Metal/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 6290 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

Site RF-333

Assigned RF-800

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

D003D

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 7, 16, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|---------------------|-----------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W066 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Filters & Media/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 119 | | | | |
| WASTE MATRIX CODE | - Site | 5410 | WIPP PART B APPLICATION | FILTERS | |
| | - Group | Filter Waste | TRUCON | RF 119 | |

IDC's

Site RF-490

Assigned RF-490

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 81 |
| Projected | 17 |
| Total | 98 |

EPA CODE(s)

| |
|-------|
| D006A |
| D009X |
| D001C |
| D002B |
| D004A |
| D007A |
| D008A |
| D011A |
| D003E |
| F001 |
| D010A |
| F002 |
| F005A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 429.82 | 429.82 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | 8.77 | 8.77 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 24

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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29-Jun-94

| | | | | | |
|---------------------------------------|----------------------|-----------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W067 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Cemented Filters/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 119 | | | | |
| WASTE MATRIX CODE | - Site | 5410 | WIPP PART B APPLICATION | FILTERS | |
| | - Group | Filter Waste | TRUCON | RF 119 | |

Site RF-376
Assigned RF-376

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 125 |
| Projected | 5 |
| Total | 130 |

EPA CODE(s)

| |
|-------|
| D009X |
| D001C |
| D002B |
| D003E |
| D005A |
| D006A |
| F003 |
| D008A |
| F001 |
| F002 |
| D007A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 24.04 | 4.81 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 1418.27 | 254.81 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | 38.46 | 14.42 | 0.00 |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 24

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | |
|--|---------------------------------------|----------------------------|--------------------------------|---------------------------------|
| DATABASE WS ID | RF-W068 | | HANDLING CH | FIELD OFFICE Rocky Flats |
| | WS NAME Particulate Sludge/TRM | | | |
| NO MIGRATION VARIANCE PETITION Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3129 | WIPP PART B APPLICATION | Information Incomplete |
| | - Group | Solidified Inorganic Waste | | TRUCON Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-806.2 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 61 |
| Projected | 0 |
| Total | 61 |

EPA CODE(s)

| |
|-------|
| D006A |
| D001C |
| D007A |
| D008A |
| F001 |
| F002 |
| F001 |
| F002 |
| F005A |
| F005A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Solidified | Soils | | | |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 8, 13, 16, 17, 21, 22, 23, 24

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|------------------------|--------------------------|--------------------------------|------------------------|-------------|
| DATABASE WS ID | RF-W069 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Organic Resins/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3212 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Organic Waste | TRUCON | Information Incomplete | |

Site Not Reported
Assigned RF-806.1

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 13 |
| Projected | 0 |
| Total | 13 |

EPA CODE(s)

| |
|-------|
| F001 |
| F002 |
| D007A |
| D006A |
| D008A |
| D001C |
| F001 |
| F005A |
| F005A |
| F002 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 2012.02 | 625.00 | 164.90 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 21, 22, 23, 24

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|----------------------------|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | RF-W076 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Process Residues/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3119 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

Site **DC's**
 Not Reported
 Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 70 |
| Projected | 0 |
| Total | 70 |

EPA CODE(s)

| |
|-------|
| F002 |
| D008A |
| D007A |
| D001C |
| F005A |
| D006A |
| F002 |
| F005A |
| |
| F001 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------------|----------------------------|----|----------------|------------------------|
| DATABASE WS ID | RL-T01 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

| | |
|----------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1987 |
| Projected | 2907 |
| Total | 4894 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|------------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | Celulosics | 184.81 | 80.91 |
| Rubber | | 17.88 | 7.36 | 0.00 |
| Plastics | | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|--------|------------------------|----------|
| DATABASE WS ID | RL-T02 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Soil | TRUCON | Information Incomplete | |

IPC's
Site Not Reported
Assigned RF-374

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 4587 |
| Projected | 2907 |
| Total | 7494 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 3072.12 | 584.13 | 0.00 |
| | Organics | | | |
| | Celulosics | 12.02 | 12.02 | 0.00 |
| | Rubber | | | |
| | Plastics | 12.02 | 12.02 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | 144.23 | 64.90 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|----|----------------|------------------------|
| DATABASE WS ID | RL-T03 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

| | |
|----------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | RF-831 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-------|
| Retrievable | 8907 |
| Projected | 2907 |
| Total | 11814 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| | Organics | | | |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 23, 27

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | RL-T04 | HANDLING | RH | FIELD OFFICE | Richland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

Site Not Reported

Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|--------------|-------------|
| Retrievable | 201 |
| Projected | 1227 |
| Total | 1428 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|------------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | Celulosics | 184.81 | 80.91 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

29-Jun-94

| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----------------|------------------------|----------|
| DATABASE WS ID | RL-T05 | HANDLING | RH | FIELD OFFICE | Richland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | Not Applicable | | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-440 |

WASTE VOLUMES (cu. m)

| | |
|-------------|------|
| Retrievable | 0 |
| Projected | 1227 |
| Total | 1227 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| | Organics | | | |
| | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | RL-T06 | HANDLING | RH | FIELD OFFICE | Richland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

Site Not Reported

Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 0 |
| Projected | 1227 |
| Total | 1227 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|------------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | Celulosics | 45.27 | 7.43 |
| Rubber | | | | |
| Plastics | | 67.57 | 15.09 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | RL-T07 | HANDLING | RH | FIELD OFFICE | Richland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Inorganic Non-metal Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-371 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 0 |
| Projected | 1227 |
| Total | 1227 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 572.12 | 572.12 | 0.00 |
| | Organics | | | |
| Organics | Celulosics | 24.04 | 24.04 | 0.00 |
| | Rubber | | | |
| | Plastics | 24.04 | 24.04 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|----------|
| DATABASE WS ID | RL-W072 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | TC METAL INORGANIC SOLID DEBRIS, TRU(HG) | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5420 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **TRUM-02**
Assigned **RF-480**

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 8 |
| Projected | 5 |
| Total | 13 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | 45.27 | 7.43 | 0.00 |
| Solidified | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| | Organic Matrix | | | |
| Soils | Inorganic Matrix | | | |
| | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|------------------------------------|-------------------------|------------------------|--------------|----------|
| DATABASE WS ID | RL-W074 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | TC METAL ORGANIC SOLID DEBRIS, TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5440 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **TRUM-04**

Assigned **RH-001**

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 30 |
| Projected | 21 |
| Total | 51 |

| <u>WASTE PARAMETERS (kg/m3)</u> | | <u>Max</u> | <u>Avg</u> | <u>Min</u> |
|---------------------------------|------------------------------|------------|------------|------------|
| Inorganics | Iron-Based Metals/Alloys | 432.69 | 115.38 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.24 | 0.00 | 0.00 |
| | Other Materials | 101.11 | 49.05 | 0.00 |
| | Organics | Celulosics | 10.67 | 0.48 |
| Rubber | | 96.26 | 7.21 | 0.00 |
| Plastics | | 155.00 | 16.34 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

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| | | | | | |
|---------------------------------------|---|---------------------|--------------------------------|------------------------|----------|
| DATABASE WS ID | RL-W075 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | TC METAL ORGANIC SOLID DEBRIS, TRU (HG) | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

Site TRUM-05
Assigned RH-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 3 |
| Total | 8 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 432.69 | 115.38 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.24 | 0.00 | 0.00 |
| | Other Materials | 101.11 | 49.05 | 0.00 |
| | | | | |
| Organics | Celulosics | 10.67 | 0.48 | 0.00 |
| | Rubber | 96.26 | 7.21 | 0.00 |
| | Plastics | 155.00 | 16.34 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------|----------|
| DATABASE WS ID | RL-W077 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | NON-TC MET/SOLVENT ORG. SOLID DEBRIS-TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

Site TRUM-07
Assigned RH-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 3 |
| Total | 8 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 432.69 | 115.38 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.24 | 0.00 | 0.00 |
| | Other Materials | 101.11 | 49.05 | 0.00 |
| Organics | Celulosics | 10.67 | 0.48 | 0.00 |
| | Rubber | 96.26 | 7.21 | 0.00 |
| | Plastics | 155.00 | 16.34 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--------------------------|-------------------------|------------------------|--------------|----------|
| DATABASE WS ID | RL-W078 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | LEAD ACID BATTERIES, TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 7410 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | | |

IDC's
 Site TRUM-08
 Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 1 |
| Projected | 33 |
| Total | 34 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Celulosics | 45.27 | 7.43 | 0.00 |
| Organics | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 11, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|-------------------------------|--------------------------|--------------------------------|------------------------|----------|
| DATABASE WS ID | RL-W079 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | LEAD ACID BATTERIES, TRU (HG) | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 7410 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | |

IDC's

Site TRUM-09

Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 0 |
| Projected | 22 |
| Total | 23 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| Organics | Celulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| Solidified | Plastics | 67.57 | 15.09 | 0.00 |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 11, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|------------------------------|-------------------------|------------------------|--------------|----------|
| DATABASE WS ID | RL-W080 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | RADIOACTIVE LEAD SOLIDS, TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5420 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **TRUM-10**

Assigned **RF-321**

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 27 |
| Projected | 2 |
| Total | 29 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

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| | | | | | |
|---------------------------------------|------------------------------------|---------------------|--------------------------------|------------------------|----------|
| DATABASE WS ID | RL-W081 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | RADIOACTIVE LEAD GLASS SOLIDS, TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5490 | WIPP PART 8 APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

DC's

Site TRUM-11

Assigned RF-440

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 1 |

| WASTE PARAMETERS (kg/m ³) | | Max | Avg | Min |
|---------------------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| | Organics | | | |
| | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|-----------------------------------|--------------------------|--------------------------------|------------------------|----------|
| DATABASE WS ID | RL-W082 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | RADIOACTIVE LEAD SOLIDS, TRU (HG) | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 7200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | |

DC's

Site **TRUM-12**

Assigned **RF-321**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|-----------------------------------|--------------------------|--------------------------------|------------------------|----------|
| DATABASE WS ID | RL-W083 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | RADIOACTIVE LEAD SOLIDS, TRU (LB) | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5120 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | |

Site TRUM-13
Assigned RF-321

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

WASTE PARAMETERS (kg/m³)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|----------|
| DATABASE WS ID | RL-W085 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | SOLVENT/TC METAL INORG. SOLID DEBRIS-TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5420 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **TRUM-15**
Assigned **RF-480**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 1 |
| Total | 4 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Celulosics | 45.27 | 7.43 | 0.00 |
| Organics | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|---|---------------------|--------------------------------|------------------------|----------|
| DATABASE WS ID | RL-W086 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | SOLVENT/TC METAL ORG. SOLID DEBRIS, TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

DC's

Site **TRUM-16**

Assigned **RF-831**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 4 |
| Total | 9 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| | | | | |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|----------|
| DATABASE WS ID | RL-W101 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | WA NON-TC/SOLV. ORG. SOLID DEBRIS, TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5440 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **IDC's** TRUM-17

Assigned RF-831

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 2 |
| Projected | 169 |
| Total | 171 |

WASTE PARAMETERS (kg/m³)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|------------------------|-------------------------|------------------------|--------------|----------|
| DATABASE WS ID | RL-W133 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | MTRU-SOIL-TC MET | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 4200 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Soil | TRUCON | Information Incomplete | | |

IDC's
 Site **TRUM-21**
 Assigned **MD-842**

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 12 |
| Projected | 274 |
| Total | 286 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | 0.57 | 0.57 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.15 | 0.08 | 0.00 |
| | Other Materials | 33.91 | 5.70 | 0.00 |
| Organics | Celulosics | 0.71 | 0.71 | 0.00 |
| | Rubber | | | |
| Solidified | Plastics | | | |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | 671.46 | 564.57 | 457.45 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|-----------------------------|--------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | RL-W134 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | MTRU-APPENDIX V LABPACKS-CA | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 6190 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Organic Waste | | TRUCON | Information Incomplete |

Site TRUM-Z2
Assigned RH-004

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 0 |
| Projected | 22 |
| Total | 22 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|-------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 75.00 | 75.00 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 5, 16, 17, 21, 22, 23, 24

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|-------------------------------------|-------------------------|------------------------|------------------------|----------|
| DATABASE WS ID | RL-W135 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | MTRU-APPENDIX V LABPACKS-SOLVENT/CA | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 6190 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete | |

Site ID's

Site RH-001

Assigned RH-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 2 |
| Projected | 107 |
| Total | 109 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 432.69 | 115.38 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.24 | 0.00 | 0.00 |
| | Other Materials | 101.11 | 49.05 | 0.00 |
| | Organics | | | |
| | Celulosics | 10.67 | 0.48 | 0.00 |
| | Rubber | 96.26 | 7.21 | 0.00 |
| | Plastics | 155.00 | 16.34 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 5, 16, 17, 21, 22, 23, 24

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|------------------------|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | SA-T01 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | NON MIXED TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 8900 | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Unknown Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 0 |
| Projected | 46 |
| Total | 46 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|-----|--------|-----|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | | | |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 20, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|------------------------|-------------|
| DATABASE WS ID | SA-W134 | HANDLING | RH | FIELD OFFICE | Albuquerque |
| WS NAME | TRANSURANIC WASTE AT HOT CELL FACILITY | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 8900 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Unknown Waste | | TRUCON | Information Incomplete | |

| | |
|----------|--------------|
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

UNK

WASTE PARAMETERS (kg/m3)

| | Max | Avg | Min |
|----------------------------|-----|--------|-----|
| Inorganics | | | |
| Iron-Based | | | |
| Metals/Alloys | | | |
| Aluminum-Based | | | |
| Metals/Alloys | | | |
| Other Metals | | | |
| Other Materials | | | |
| Organics | | | |
| Celulosics | | | |
| Rubber | | | |
| Plastics | | | |
| Solidified | | | |
| Organic Matrix | | | |
| Inorganic Matrix | | | |
| Soils | | | |
| Soil | | | |
| Packaging Materials | | | |
| Steel | | 141.83 | |
| Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|----------------|------------------------|--------------|
| DATABASE WS ID | SR-T01 | HANDLING | CH | FIELD OFFICE | Savannah Riv |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Solidified Organic Waste | | TRUCON | Information Incomplete | |

| | |
|----------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | RF-801 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 198 |
| Projected | 124 |
| Total | 323 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|--------------|
| DATABASE WS ID | SR-T02 | HANDLING | CH | FIELD OFFICE | Savannah Riv |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Combustible Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------------|
| Site | Not Reported |
| Assigned | RF-831 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 4747 |
| Projected | 2987 |
| Total | 7734 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by porportioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|--------------------------|--------------------------------|------------------------|--------------|
| DATABASE WS ID | SR-W006 | HANDLING | CH | FIELD OFFICE | Savannah Riv |
| WS NAME | MIXED TTA/XYLENE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 2000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Organic Waste | TRUCON | Information Incomplete | |

Site **Not Reported**

Assigned **RF-801**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Organic Matrix | | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| Steel | | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 1, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|------------------------|-------------------------|------------------------|------------------------|--------------|
| DATABASE WS ID | SR-W026 | HANDLING | CH | FIELD OFFICE | Savannah Riv |
| WS NAME | THIRDS TRU WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | | TRUCON | Information Incomplete | |

Site **049/050**

Assigned **RF-831**

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 67 |
| Projected | 5813 |
| Total | 5880 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| | Organics | | | |
| | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|------------------------|-------------------------|------------------------|--------------|--------------|
| DATABASE WS ID | SR-W027 | HANDLING | CH | FIELD OFFICE | Savannah Riv |
| WS NAME | SOLVENT TRU WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **049/050**
Assigned **RF-831**

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 4956 |
| Projected | 0 |
| Total | 4956 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| | Organics | | | |
| | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|--|--------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | SR-W044 | HANDLING | CH | FIELD OFFICE | Savannah Riv |
| WS NAME | TRI-BUTYL-PHOSPHATE & N-PARAFFIN - TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 2100 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Organic Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------|
| Site | 096 |
| Assigned | RF-801 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 3 |
| Projected | 0 |
| Total | 3 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| Solidified | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 1, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

29-Jun-94

| | | | | | |
|--------------------------------|-----------------------------|-------------------------|------------------------|--------------|--------------|
| DATABASE WS ID | SR-W053 | HANDLING | CH | FIELD OFFICE | Savannah Riv |
| WS NAME | ROCKY FLATS INCINERATOR ASH | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3111 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

DC's
 Site Not Reported
 Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

29-Jun-94

| | | | | | |
|--------------------------------|--------------------------------|----------|-------------------------|------------------------|-------|
| DATABASE WS ID | WV-T01 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | | WIPP PART B APPLICATION | Not Applicable | |
| - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete | |

| | |
|-------|-------------------|
| IDC's | Site |
| | Not Reported |
| | Assigned RF-806.2 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 19 |
| Projected | 0 |
| Total | 19 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------------|----------|-------------------------------|--------------|-------|
| DATABASE WS ID | WV-T02 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | WIPP PART B APPLICATION | | Not Applicable | | |
| - Group | Lead/Cadmium Metal Waste | | TRUCON Information Incomplete | | |

Site **Not Reported**
Assigned **RF-321**

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 29 |
| Projected | 0 |
| Total | 29 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

29-Jun-94

| | | | | | | |
|--|---------------------------------------|------------------------|-------------------------|----|---------------------|------------------------|
| P R E M I N A R Y | DATABASE WS ID | WV-T03 | HANDLING | RH | FIELD OFFICE | Idaho |
| | WS NAME | NON MIXED TRU | | | | |
| | NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| | WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | | - Group | Unknown Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 499 |
| Projected | 0 |
| Total | 499 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|---------------------------------|------------------------------|------------|------------|------------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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29-Jun-94

| | | | | | |
|--------------------------------|--------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | WV-W024 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | TRU LEAD | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 7200 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | | |

Site **IDC's** 2404

Assigned RF-321

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)

D008C

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|---------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|-----------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | WV-W041 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | TRU PAINT (DRY) WITH METALS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3131 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------------|
| Site | Not Reported |
| Assigned | RF-806.2 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| D007A |
| D008A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 21, 22, 23

APPENDIX F

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| AE | Categorized Metal | MTRU | CH | 100.0% |
| | Solidified Inorganics | MTRU | CH | 3.4% |
| | Solidified Inorganics | TRU | CH | 96.6% |
| | Solidified Organics | MTRU | CH | 100.0% |
| | Uncategorized Metal | TRU | CH | 100.0% |
| | Uncategorized Metal | TRU | RH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES

30-Jun-94

DOE TRU SITE: AE

WASTE PARAMETERS FOR Lead/Cadmium Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AE-W041 | 0.00 | 0.70 | 0.70 |
| AE-W042 | 0.40 | 0.00 | 0.40 |
| | 0.40 | 0.70 | 1.10 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 93.13 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 10.10 | 0.00 |
| | Other Metals | 913.46 | 201.72 | 0.00 |
| | Other Inorganic Materials | 29.28 | 10.65 | 0.00 |
| Organics | Cellulosics | 45.27 | 2.70 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 5.49 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AE-W038 | 3.30 | 2.00 | 5.30 |
| AE-W040 | 0.40 | 0.00 | 0.40 |
| AE-T01 | 17.40 | 142.40 | 159.80 |
| | 21.10 | 144.40 | 165.50 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 1057.69 | 419.18 | 346.15 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Organic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AE-W030 | 0.03 | 0.13 | 0.15 |
| | 0.03 | 0.13 | 0.15 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2012.02 | 625.00 | 164.80 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Unspecified Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AE-T03 | 4.40 | 35.70 | 40.10 |
| | 4.40 | 35.70 | 40.10 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|-------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES

30-Jun-94

DOE TRU SITE: AE

WASTE PARAMETERS FOR Unspecified Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AE-T02 | 0.00 | 47.60 | 47.60 |
| | 0.00 | 47.60 | 47.60 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|-------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------|--------------------|----------|---------|
|------|-------------|--------------------|----------|---------|

| | | | | |
|----|-----------------------|------|----|--------|
| AL | Solidified Inorganics | MTRU | CH | 100.0% |
|----|-----------------------|------|----|--------|

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: AL

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AL-W008 | 0.00 | 0.25 | 0.25 |
| | 0.00 | 0.25 | 0.25 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| AW | Filter | MTRU | RH | 100.0% |
| | Heterogeneous | MTRU | RH | 100.0% |
| | Solidified Inorganics | MTRU | RH | 100.0% |
| | Uncategorized Metal | MTRU | RH | 100.0% |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: AW

WASTE PARAMETERS FOR Filter Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AW-W024 | 7.14 | 0.39 | 7.53 |
| | 7.14 | 0.39 | 7.53 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 429.82 | 429.82 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | 8.77 | 8.77 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AW-W020 | 0.00 | 0.20 | 0.20 |
| | 0.00 | 0.20 | 0.20 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Lead/Cadmium Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AW-W016 | 0.00 | 0.88 | 0.88 |
| | 0.00 | 0.88 | 0.88 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Inorganic Materials | 29.28 | 29.28 | 0.00 |
| Organics | Cellulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AW-W022 | 0.00 | 0.07 | 0.07 |
| | 0.00 | 0.07 | 0.07 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Unspecified Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|------------------------|------------------------------------|-----------------------|----------------------------------|
| AW-W018 | 0.14 | 0.01 | 0.15 |
| AW-W019 | 0.01 | 0.00 | 0.01 |
| AW-W021 | 0.00 | 0.60 | 0.60 |
| | 0.15 | 0.61 | 0.76 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Inorganic Materials | 29.28 | 29.28 | 0.00 |
| Organics | Cellulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------|--------------------|----------|---------|
|------|-------------|--------------------|----------|---------|

BC

Unknown

TRU

RH

100.0%

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: BC

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| BC-T01 | 0.00 | 368.00 | 368.00 |
| | 0.00 | 368.00 | 368.00 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------|--------------------|----------|---------|
|------|-------------|--------------------|----------|---------|

BE

| | | | |
|---------|-----|----|--------|
| Unknown | TRU | CH | 100.0% |
| Unknown | TRU | RH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: BE

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| BE-T01 | 0.00 | 236.50 | 236.50 |
| | 0.00 | 236.50 | 236.50 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: BE

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| BE-T02 | 0.00 | 7.20 | 7.20 |
| | 0.00 | 7.20 | 7.20 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------------|--------------------|----------|---------|
| ET | Categorized Metal | MTRU | CH | 0.7% |
| | Categorized Metal | TRU | CH | 99.3% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: ET

WASTE PARAMETERS FOR Lead/Cadmium Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| ET-T01 | 2.48 | 0.20 | 2.68 |
| ET-W002 | 0.02 | 0.00 | 0.02 |
| | 2.50 | 0.20 | 2.70 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|-------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| IN | Combustible | MTRU | CH | 100.0% |
| | Filter | MTRU | CH | 100.0% |
| | Filter | MTRU | RH | 100.0% |
| | Graphite | MTRU | CH | 82.2% |
| | Graphite | TRU | CH | 17.8% |
| | Heterogeneous | MTRU | CH | 100.0% |
| | Heterogeneous | MTRU | RH | 57.6% |
| | Heterogeneous | TRU | RH | 42.4% |
| | Inorganic Non-Metal | MTRU | CH | 98.9% |
| | Inorganic Non-Metal | TRU | CH | 1.1% |
| | Salt Waste | MTRU | CH | 65.1% |
| | Salt Waste | TRU | CH | 34.9% |
| | Soils | MTRU | CH | 100.0% |
| | Solidified Inorganics | MTRU | CH | 99.5% |
| | Solidified Inorganics | TRU | CH | 0.5% |
| | Solidified Inorganics | MTRU | RH | 100.0% |
| | Solidified Organics | MTRU | CH | 99.4% |
| | Solidified Organics | TRU | CH | 0.6% |
| | Uncategorized Metal | MTRU | CH | 100.0% |
| | Uncategorized Metal | TRU | CH | 0.0% |
| | Unknown | MTRU | CH | 100.0% |
| | Unknown | MTRU | RH | 60.4% |
| | Unknown | TRU | RH | 39.6% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: IN

| WASTE PARAMETERS FOR Combustible Waste | | | |
|--|----------------------------|----------------|--------------------------|
| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
| IN-W264 | 10.18 | 0.00 | 10.18 |
| IN-W202 | 109.90 | 0.00 | 109.90 |
| IN-W206 | 0.85 | 0.00 | 0.85 |
| IN-W326 | 0.42 | 0.00 | 0.42 |
| IN-W252 | 160.23 | 0.00 | 160.23 |
| IN-W266 | 25.65 | 0.00 | 25.65 |
| IN-W336 | 4.14 | 0.00 | 4.14 |
| IN-W198 | 170.38 | 0.00 | 170.38 |
| IN-W327 | 4.24 | 0.00 | 4.24 |
| IN-W260 | 63.60 | 0.00 | 63.60 |
| IN-W330 | 7.42 | 0.00 | 7.42 |
| | 667.01 | 0.00 | 667.01 |

| Material Parameters (kg/m3) | | Max | Average | Min |
|-----------------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 504.81 | 118.79 | 0.00 |
| | Other Inorganic Materials | 144.23 | 14.18 | 0.00 |
| Organics | Cellulosics | 918.75 | 27.81 | 0.00 |
| | Rubber | 464.42 | 130.69 | 0.00 |
| | Plastics | 1060.10 | 56.72 | 0.00 |
| | | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Filter Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W306.4 | 1039.50 | 0.00 | 1039.50 |
| IN-W214 | 0.64 | 0.00 | 0.64 |
| IN-W207 | 1.48 | 0.00 | 1.48 |
| IN-W206 | 383.08 | 0.00 | 383.08 |
| | 1424.70 | 0.00 | 1424.70 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 500.00 | 238.61 | 0.00 |
| Organics | Cellulosics | 9.62 | 0.00 | 1.20 |
| | Rubber | | | |
| | Plastics | 8.77 | 2.36 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Graphite Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W276 | 391.78 | 0.00 | 391.78 |
| IN-W370 | 66.78 | 0.00 | 66.78 |
| IN-W369 | 12.30 | 0.00 | 12.30 |
| IN-W368 | 3.39 | 0.00 | 3.39 |
| IN-W367 | 4.44 | 0.00 | 4.44 |
| IN-W272 | 1.91 | 0.00 | 1.91 |
| IN-W275 | 6.36 | 0.00 | 6.36 |
| | 486.96 | 0.00 | 486.96 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 1673.08 | 74.45 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W283 | 1.06 | 0.00 | 1.06 |
| IN-W281 | 370.89 | 0.00 | 370.89 |
| IN-W278 | 13.95 | 0.00 | 13.95 |
| IN-W346 | 14.59 | 0.00 | 14.59 |
| IN-W163 | 0.85 | 0.00 | 0.85 |
| IN-W361 | 1.48 | 0.00 | 1.48 |
| IN-W334 | 5.51 | 0.00 | 5.51 |
| IN-W259 | 58.84 | 0.00 | 58.84 |
| IN-W266 | 53.15 | 0.00 | 53.15 |
| IN-W269 | 25.86 | 0.00 | 25.86 |
| IN-W169 | 5774.64 | 0.00 | 5774.64 |
| IN-W199 | 1.27 | 0.00 | 1.27 |
| IN-W306.3 | 3465.00 | 0.00 | 3465.00 |
| IN-W302 | 106.00 | 0.00 | 106.00 |
| IN-W186 | 2695.14 | 0.00 | 2695.14 |
| IN-W187 | 0.21 | 0.00 | 0.21 |
| IN-W291 | 770.09 | 0.00 | 770.09 |
| IN-W189 | 6.15 | 0.00 | 6.15 |
| IN-W172 | 165.57 | 0.00 | 165.57 |
| IN-W225 | 22.20 | 0.00 | 22.20 |
| IN-W171 | 3.59 | 0.00 | 3.59 |
| IN-W203 | 79.89 | 0.00 | 79.89 |
| IN-W204 | 1.91 | 0.00 | 1.91 |
| IN-W170 | 0.42 | 0.00 | 0.42 |
| IN-W289 | 25.36 | 0.00 | 25.36 |
| IN-W285 | 64.90 | 0.00 | 64.90 |
| IN-W329 | 1.27 | 0.00 | 1.27 |
| IN-W271 | 0.42 | 0.00 | 0.42 |
| IN-W197 | 778.34 | 0.00 | 778.34 |
| | 14608.55 | 0.00 | 14608.55 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 41.40 | 0.00 |
| | Aluminum-based Metals/Alloys | 38.22 | 0.48 | 0.00 |
| | Other Metals | 46.63 | 0.16 | 0.00 |
| | Other Inorganic Materials | 3072.12 | 5.20 | 0.00 |
| | Cellulosics | 918.75 | 100.97 | 0.00 |
| Organics | Rubber | 212.02 | 9.92 | 0.00 |
| | Plastics | 1060.10 | 43.83 | 0.00 |
| | Inorganic Matrix | | | |
| Solidified Materials | Organic Matrix | 2.98 | 0.00 | 0.00 |
| Soils | Soil | 144.23 | 0.24 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Inorganic Non-metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W161 | 111.38 | 0.00 | 111.38 |
| IN-W248 | 2.76 | 0.00 | 2.76 |
| IN-W243 | 247.70 | 0.00 | 247.70 |
| IN-W240 | 169.09 | 0.00 | 169.09 |
| IN-W374 | 9.75 | 0.00 | 9.75 |
| IN-W246 | 168.96 | 0.00 | 168.96 |
| IN-W247 | 199.46 | 0.00 | 199.46 |
| IN-W230 | 18.23 | 0.00 | 18.23 |
| | 927.33 | 0.00 | 927.33 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 3072.12 | 332.31 | 0.00 |
| Organics | Cellulosics | 24.04 | 3.95 | 0.00 |
| | Rubber | 1.10 | 0.94 | 0.00 |
| | Plastics | 24.04 | 19.86 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | 144.23 | 0.68 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Salt Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W366 | 1.27 | 0.00 | 1.27 |
| IN-W364 | 0.21 | 0.00 | 0.21 |
| IN-W366 | 4.66 | 0.00 | 4.66 |
| IN-W316 | 0.64 | 0.00 | 0.64 |
| IN-W314 | 1.06 | 0.00 | 1.06 |
| IN-W312 | 3.18 | 0.00 | 3.18 |
| IN-W311 | 6.57 | 0.00 | 6.57 |
| | 17.59 | 0.00 | 17.59 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 14.42 | 5.65 | 0.48 |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 584.33 | 155.51 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Soil

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W263 | 38.04 | 0.00 | 38.04 |
| | 38.04 | 0.00 | 38.04 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | 0.57 | 0.57 | 0.00 |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 0.15 | 0.08 | 0.00 |
| | Other Inorganic Materials | 33.91 | 5.70 | 0.00 |
| Organics | Cellulosics | 0.71 | 0.71 | 0.00 |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | 671.46 | 564.57 | 457.45 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W181 | 9.51 | 0.00 | 9.51 |
| IN-W228 | 1296.80 | 0.00 | 1296.80 |
| IN-W178 | 5.51 | 0.00 | 5.51 |
| IN-W222 | 276.10 | 0.00 | 276.10 |
| IN-W218 | 459.19 | 0.00 | 459.19 |
| IN-W169 | 0.85 | 0.00 | 0.85 |
| IN-W221 | 14.42 | 0.00 | 14.42 |
| IN-W177 | 176.17 | 0.00 | 176.17 |
| IN-W216 | 2531.01 | 0.00 | 2531.01 |
| IN-W367 | 0.42 | 0.00 | 0.42 |
| IN-W368 | 2.54 | 0.00 | 2.54 |
| IN-W168 | 70.81 | 0.00 | 70.81 |
| IN-W306.1 | 1905.70 | 0.00 | 1905.70 |
| IN-W363 | 2.33 | 0.00 | 2.33 |
| IN-W362 | 21.41 | 0.00 | 21.41 |
| IN-W332 | 0.85 | 0.00 | 0.85 |
| IN-W361 | 5.09 | 0.00 | 5.09 |
| IN-W257 | 0.42 | 0.00 | 0.42 |
| IN-W347 | 54.30 | 0.00 | 54.30 |
| IN-W267 | 7.43 | 0.00 | 7.43 |
| IN-W174 | 151.16 | 0.00 | 151.16 |
| IN-W373 | 0.21 | 0.00 | 0.21 |
| | 6992.23 | 0.00 | 6992.23 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 0.32 | 0.00 | 0.00 |
| | Other Inorganic Materials | 528.85 | 0.19 | 0.00 |
| Organics | Cellulosics | 918.75 | 0.00 | 0.00 |
| | Rubber | 212.02 | 0.00 | 0.00 |
| | Plastics | 1060.10 | 0.01 | 0.00 |
| Solidified Materials | Inorganic Matrix | 2012.02 | 718.86 | 0.00 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Organic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W167 | 226.83 | 0.00 | 226.83 |
| IN-W164 | 1.91 | 0.00 | 1.91 |
| IN-W167 | 164.09 | 0.00 | 164.09 |
| IN-W220 | 553.53 | 0.00 | 553.53 |
| IN-W188 | 1.06 | 0.00 | 1.06 |
| IN-W364 | 1.48 | 0.00 | 1.48 |
| IN-W365 | 4.66 | 0.00 | 4.66 |
| IN-W319 | 2.13 | 0.00 | 2.13 |
| IN-W321 | 10.60 | 0.00 | 10.60 |
| IN-W317 | 51.52 | 0.00 | 51.52 |
| | 1017.81 | 0.00 | 1017.81 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2012.02 | 902.46 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W338 | 1.27 | 0.00 | 1.27 |
| IN-W339 | 8.69 | 0.00 | 8.69 |
| IN-W342 | 0.42 | 0.00 | 0.42 |
| IN-W308 | 4139.66 | 0.00 | 4139.66 |
| IN-W360 | 0.21 | 0.00 | 0.21 |
| | 4160.25 | 0.00 | 4160.25 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Unspecified Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|------------------------|------------------------------------|-----------------------|----------------------------------|
| IN-W371 | 0.21 | 0.00 | 0.21 |
| IN-W298 | 5243.44 | 0.00 | 5243.44 |
| IN-W288 | 74.60 | 0.00 | 74.60 |
| IN-W287 | 211.85 | 0.00 | 211.85 |
| IN-W300 | 1513.42 | 0.00 | 1513.42 |
| IN-W280 | 35.40 | 0.00 | 35.40 |
| IN-W260 | 36.46 | 0.00 | 36.46 |
| IN-W284 | 443.21 | 0.00 | 443.21 |
| IN-W306.2 | 3118.50 | 0.00 | 3118.50 |
| | 10677.89 | 0.00 | 10677.89 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | 1528.85 | 254.58 | 0.00 |
| | Aluminum-based Metals/Alloys | 73.68 | 27.67 | 0.00 |
| | Other Metals | 1586.54 | 25.63 | 0.00 |
| | Other Inorganic Materials | 812.50 | 29.36 | 0.00 |
| Organics | Cellulosics | 115.00 | 8.34 | 0.00 |
| | Rubber | 2.42 | 0.01 | 0.00 |
| | Plastics | 67.57 | 14.76 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: IN

WASTE PARAMETERS FOR Filter Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W112 | 20.40 | 204.00 | 224.40 |
| | 20.40 | 204.00 | 224.40 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 429.82 | 429.82 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | 8.77 | 8.77 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W139 | 5.43 | 0.00 | 5.43 |
| IN-W323 | 1.91 | 0.00 | 1.91 |
| IN-W368 | 5.41 | 0.00 | 5.41 |
| | 12.75 | 0.00 | 12.75 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 87.27 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.44 | 0.00 |
| Organics | Cellulosics | 450.95 | 100.72 | 0.00 |
| | Rubber | 17.88 | 6.61 | 0.00 |
| | Plastics | 149.04 | 50.37 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W144 | 2.10 | 0.00 | 2.10 |
| IN-W219 | 9.54 | 0.00 | 9.54 |
| | 11.64 | 0.00 | 11.64 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 2012.02 | 655.36 | 164.90 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W341 | 0.21 | 0.00 | 0.21 |
| IN-W349 | 6.36 | 0.00 | 6.36 |
| IN-W369 | 0.64 | 0.00 | 0.64 |
| IN-W369 | 0.21 | 0.00 | 0.21 |
| IN-W372 | 3.60 | 0.00 | 3.60 |
| IN-W337 | 0.21 | 0.00 | 0.21 |
| | 11.23 | 0.00 | 11.23 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|---------------|--------------------|----------|---------|
| KA | Heterogeneous | TRU | CH | 100.0% |
| | Heterogeneous | MTRU | RH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: KA

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| KA-T01 | 2.40 | 0.00 | 2.40 |
| | 2.40 | 0.00 | 2.40 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: KA

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| KA-W016 | 11.23 | 25.20 | 36.43 |
| | 11.23 | 25.20 | 36.43 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.96 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| LA | Categorized Metal | MTRU | CH | 100.0% |
| | Heterogeneous | MTRU | CH | 43.1% |
| | Heterogeneous | TRU | CH | 56.9% |
| | Heterogeneous | TRU | RH | 100.0% |
| | Solidified Inorganics | MTRU | CH | 30.0% |
| | Solidified Inorganics | TRU | CH | 70.0% |
| | Uncategorized Metal | MTRU | CH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: LA

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LA-T03 | 581.50 | 3243.80 | 3825.30 |
| LA-W043 | 1183.60 | 0.00 | 1183.60 |
| LA-W039 | 276.37 | 1433.18 | 1709.55 |
| | 2041.47 | 4676.98 | 6718.45 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 54.76 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.16 | 0.00 |
| | Other Metals | 21.25 | 7.84 | 0.00 |
| | Other Inorganic Materials | 24.04 | 4.32 | 0.00 |
| Organics | Cellulosics | 184.81 | 72.80 | 0.00 |
| | Rubber | 17.88 | 4.64 | 0.00 |
| | Plastics | 149.04 | 39.18 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Lead/Cadmium Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LA-W042 | 158.50 | 0.00 | 158.50 |
| LA-W037 | 2050.73 | 1823.75 | 3874.48 |
| | 2209.23 | 1823.75 | 4032.98 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|-------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LA-W046 | 148.10 | 0.00 | 148.10 |
| LA-W044 | 2868.30 | 0.00 | 2868.30 |
| LA-W041 | 1088.29 | 0.00 | 1088.29 |
| LA-W040 | 183.91 | 229.73 | 413.64 |
| LA-W038 | 15.20 | 127.45 | 142.65 |
| LA-W036 | 115.87 | 2.09 | 117.96 |
| LA-W034 | 110.06 | 18.32 | 128.38 |
| LA-T01 | 1744.50 | 9731.30 | 11475.80 |
| | 6274.23 | 10108.89 | 16383.12 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 1288.27 | 1006.24 | 0.00 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Unspecified Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LA-W035 | 15.05 | 0.00 | 15.05 |
| | 15.05 | 0.00 | 15.05 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 931.37 | 254.42 | 0.00 |
| | Aluminum-based Metals/Alloys | 9.86 | 2.89 | 0.00 |
| | Other Metals | 44.45 | 12.14 | 0.00 |
| | Other Inorganic Materials | 5.29 | 0.88 | 0.00 |
| Organics | Cellulosics | 0.12 | 0.06 | 0.00 |
| | Rubber | 180.31 | 88.71 | 0.00 |
| | Plastics | 0.02 | 0.01 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: LA

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LA-T82 | 78.40 | 930.00 | 1008.40 |
| | 78.40 | 930.00 | 1008.40 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------|--------------------|----------|---------|
|------|-------------|--------------------|----------|---------|

LB

Unknown

TRU

CH

100.0%

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: LB

| WASTE PARAMETERS FOR Unknown Waste | | | |
|------------------------------------|----------------------------|----------------|--------------------------|
| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
| LB-T01 | 0.00 | 2.30 | 2.30 |
| | 0.00 | 2.30 | 2.30 |

| Material Parameters (kg/m3) | | Max | Average | Min |
|-----------------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| LL | Categorized Metal | MTRU | CH | 100.0% |
| | Heterogeneous | TRU | CH | 100.0% |
| | Solidified Inorganics | MTRU | CH | 4.5% |
| | Solidified Inorganics | TRU | CH | 95.5% |
| | Solidified Organics | MTRU | CH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: LL

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LL-T02 | 110.50 | 809.50 | 920.00 |
| | 110.50 | 809.50 | 920.00 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Lead/Cadmium Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LL-W018 | 1.00 | 28.00 | 29.00 |
| | 1.00 | 28.00 | 29.00 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Inorganic Materials | 29.28 | 29.28 | 0.00 |
| Organics | Cellulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LL-T01 | 110.50 | 809.50 | 920.00 |
| LL-W020 | 1.50 | 42.00 | 43.50 |
| | 112.00 | 851.50 | 963.50 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 1057.69 | 35.81 | 346.15 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Solidified Organic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LL-W019 | 0.75 | 21.00 | 21.75 |
| | 0.75 | 21.00 | 21.75 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 1134.62 | 923.06 | 350.96 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| MD | Combustible | MTRU | CH | 1.5% |
| | Combustible | TRU | CH | 98.5% |
| | Solidified Inorganics | MTRU | CH | 1.7% |
| | Solidified Inorganics | TRU | CH | 98.3% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: MD

WASTE PARAMETERS FOR Combustible Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| MD-T02 | 56.60 | 27.90 | 84.50 |
| MD-W003 | 1.10 | 0.23 | 1.33 |
| | 57.70 | 28.13 | 85.83 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.14 | 0.00 |
| | Other Inorganic Materials | 144.23 | 0.45 | 0.00 |
| Organics | Cellulosics | 10.10 | 0.09 | 0.00 |
| | Rubber | 464.42 | 4.10 | 0.00 |
| | Plastics | 30.29 | 0.27 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| MD-T01 | 84.80 | 27.90 | 112.70 |
| MD-W002 | 2.00 | 0.00 | 2.00 |
| | 86.80 | 27.90 | 114.70 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 630.29 | 10.99 | 0.00 |
| | Organic Matrix | 1134.62 | 906.96 | 350.96 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------|--------------------|----------|---------|
|------|-------------|--------------------|----------|---------|

MU

Heterogeneous

MTRU

CH

100.0%

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: MU

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| MU-W002 | 0.08 | 0.48 | 0.56 |
| | 0.08 | 0.48 | 0.56 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------|--------------------|----------|---------|
|------|-------------|--------------------|----------|---------|

NT

Heterogeneous

MTRU

CH

100.0%

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: NT

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| NT-W001 | 612.00 | 0.00 | 612.00 |
| | 612.00 | 0.00 | 612.00 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| OR | Heterogeneous | MTRU | CH | 61.3% |
| | Heterogeneous | TRU | CH | 38.7% |
| | Heterogeneous | MTRU | RH | 89.6% |
| | Heterogeneous | TRU | RH | 10.4% |
| | Solidified Inorganics | MTRU | CH | 62.6% |
| | Solidified Inorganics | TRU | CH | 37.4% |
| | Solidified Inorganics | MTRU | RH | 100.0% |
| | Unknown | TRU | RH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: OR

| WASTE PARAMETERS FOR Heterogeneous Waste | | | |
|--|----------------------------|----------------|--------------------------|
| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
| OR-T03 | 258.10 | 336.30 | 594.40 |
| OR-W044 | 511.00 | 273.00 | 784.00 |
| OR-W045.2 | 4.70 | 0.00 | 4.70 |
| OR-W047 | 154.50 | 0.00 | 154.50 |
| | 928.30 | 609.30 | 1537.60 |

| Material Parameters (kg/m3) | | Max | Average | Min |
|-----------------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

| WASTE PARAMETERS FOR Solidified Inorganic Waste | | | |
|---|----------------------------|----------------|--------------------------|
| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
| OR-T01 | 28.70 | 37.30 | 66.00 |
| OR-W042 | 110.00 | 0.00 | 110.00 |
| OR-W045.1 | 0.50 | 0.00 | 0.50 |
| | 139.20 | 37.30 | 176.50 |

| Material Parameters (kg/m3) | | Max | Average | Min |
|-----------------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 36.23 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.00 | 0.00 |
| | Other Metals | 21.25 | 0.01 | 0.00 |
| | Other Inorganic Materials | 24.04 | 0.91 | 0.00 |
| Organics | Cellulosics | 184.81 | 30.49 | 0.00 |
| | Rubber | 17.88 | 2.77 | 0.00 |
| | Plastics | 149.04 | 24.45 | 0.00 |
| Solidified Materials | Inorganic Matrix | 1057.69 | 494.39 | 346.15 |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: OR

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| OR-W040 | 462.00 | 198.00 | 660.00 |
| OR-T04 | 35.90 | 40.30 | 76.20 |
| | 497.90 | 238.30 | 736.20 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| OR-W046 | 605.00 | 180.00 | 785.00 |
| | 605.00 | 180.00 | 785.00 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 1057.69 | 793.77 | 346.15 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| OR-T02 | 43.90 | 49.30 | 93.20 |
| | 43.90 | 49.30 | 93.20 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| PA | Solidified Inorganics | MTRU | CH | 100.0% |
| | Unknown | MTRU | CH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: PA

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| PA-W014 | 18.75 | 0.00 | 18.75 |
| | 18.75 | 0.00 | 18.75 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| PA-W015 | 6.00 | 0.00 | 6.00 |
| | 6.00 | 0.00 | 6.00 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| RF | Categorized Metal | MTRU | CH | 100.0% |
| | Combustible | MTRU | CH | 13.9% |
| | Combustible | TRU | CH | 86.1% |
| | Filter | MTRU | CH | 19.8% |
| | Filter | TRU | CH | 80.2% |
| | Graphite | MTRU | CH | 100.0% |
| | Heterogeneous | MTRU | CH | 13.6% |
| | Heterogeneous | TRU | CH | 86.4% |
| | Inorganic Non-Metal | MTRU | CH | 100.0% |
| | Salt Waste | MTRU | CH | 100.0% |
| | Solidified Inorganics | MTRU | CH | 45.7% |
| | Solidified Inorganics | TRU | CH | 54.3% |
| | Solidified Organics | MTRU | CH | 100.0% |
| | Uncategorized Metal | MTRU | CH | 0.8% |
| | Uncategorized Metal | TRU | CH | 99.2% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: RF

WASTE PARAMETERS FOR Combustible Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W041 | 27.70 | 9.35 | 37.05 |
| RF-W029 | 20.16 | 11.90 | 32.06 |
| RF-T03 | 239.10 | 187.30 | 426.40 |
| | 286.96 | 208.55 | 495.51 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 913.46 | 296.18 | 0.00 |
| | Other Inorganic Materials | 144.23 | 4.02 | 0.00 |
| Organics | Cellulosics | 10.10 | 0.80 | 0.00 |
| | Rubber | 464.42 | 37.01 | 0.00 |
| | Plastics | 30.29 | 2.41 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Filter Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-T06 | 486.40 | 437.10 | 923.50 |
| RF-W067 | 125.43 | 4.65 | 130.08 |
| RF-W066 | 81.23 | 16.70 | 97.93 |
| | 693.06 | 458.45 | 1151.51 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 24.04 | 0.54 | 0.00 |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 1418.27 | 410.05 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | 38.46 | 9.41 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Graphite Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W000 | 0.42 | 0.00 | 0.42 |
| | 0.42 | 0.00 | 0.42 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 1673.08 | 115.38 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W036 | 0.84 | 1.05 | 1.89 |
| RF-T04 | 1255.60 | 1061.50 | 2317.10 |
| RF-W026 | 0.21 | 0.00 | 0.21 |
| RF-W012 | 236.91 | 124.40 | 361.31 |
| | 1493.56 | 1186.95 | 2680.51 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 221.38 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 24.01 | 0.00 |
| | Other Metals | 24.68 | 21.34 | 0.00 |
| | Other Inorganic Materials | 961.54 | 25.69 | 0.00 |
| Organics | Cellulosics | 576.85 | 22.08 | 0.00 |
| | Rubber | 47.84 | 1.50 | 0.00 |
| | Plastics | 84.42 | 17.57 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Inorganic Non-metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W062 | 14.90 | 3.50 | 18.40 |
| RF-W009 | 1.89 | 0.00 | 1.89 |
| RF-W032 | 2.11 | 5.85 | 7.96 |
| RF-W067 | 0.63 | 3.50 | 4.13 |
| RF-W066 | 193.40 | 0.00 | 193.40 |
| | 212.93 | 12.85 | 225.78 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 3072.12 | 495.40 | 0.00 |
| Organics | Cellulosics | 12.02 | 0.32 | 0.00 |
| | Rubber | 1.10 | 0.13 | 0.00 |
| | Plastics | 19.82 | 2.42 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | 144.23 | 0.54 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Lead/Cadmium Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W028 | 3.78 | 3.10 | 6.88 |
| RF-W011 | 73.48 | 44.75 | 118.23 |
| | 77.26 | 47.85 | 125.11 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 242.02 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 26.24 | 0.00 |
| | Other Metals | 913.46 | 39.98 | 0.00 |
| | Other Inorganic Materials | 29.28 | 27.67 | 0.00 |
| Organics | Cellulosics | 45.27 | 7.02 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 14.26 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Salt Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W068 | 754.30 | 0.00 | 754.30 |
| | 754.30 | 0.00 | 754.30 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|-------|
| Inorganics | Iron-based Metals/Alloys | 14.42 | 12.02 | 0.48 |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 567.30 | 216.30 | 48.10 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W038 | 1.26 | 26.25 | 27.51 |
| RF-W040 | 1202.00 | 0.00 | 1202.00 |
| RF-W010 | 143.43 | 14.00 | 157.43 |
| RF-T01 | 1257.90 | 1123.90 | 2381.80 |
| RF-W069 | 460.50 | 0.00 | 460.50 |
| RF-W066 | 0.21 | 0.00 | 0.21 |
| RF-W063 | 36.25 | 13.75 | 50.00 |
| RF-W068 | 61.45 | 0.00 | 61.45 |
| RF-W076 | 69.64 | 0.00 | 69.64 |
| | 3232.64 | 1177.90 | 4410.54 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 2012.02 | 629.02 | 164.90 |
| | Organic Matrix | 1418.27 | 7.50 | 519.23 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Organic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W013 | 111.30 | 9.50 | 120.80 |
| RF-W063 | 12.80 | 0.00 | 12.80 |
| | 124.10 | 9.50 | 133.60 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2012.02 | 894.52 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Unspecified Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W037 | 5.46 | 0.00 | 5.46 |
| RF-T02 | 362.25 | 312.20 | 674.45 |
| | 367.71 | 312.20 | 679.91 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 317.31 | 83.65 | 0.00 |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 1586.54 | 195.19 | 0.00 |
| | Other Inorganic Materials | 19.23 | 19.23 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| RL | Categorized Metal | MTRU | CH | 100.0% |
| | Heterogeneous | MTRU | CH | 2.4% |
| | Heterogeneous | TRU | CH | 97.6% |
| | Heterogeneous | TRU | RH | 100.0% |
| | Inorganic Non-Metal | TRU | RH | 100.0% |
| | Soils | MTRU | CH | 3.7% |
| | Soils | TRU | CH | 96.3% |
| | Solidified Inorganics | MTRU | CH | 2.2% |
| | Solidified Inorganics | TRU | CH | 97.8% |
| | Solidified Inorganics | TRU | RH | 100.0% |
| | Solidified Organics | MTRU | CH | 100.0% |
| | | | | |
| | | | | |
| | | | | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: RL

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RL-W077 | 4.64 | 3.17 | 7.81 |
| RL-T03 | 8907.00 | 2907.40 | 11814.40 |
| RL-W072 | 7.98 | 5.47 | 13.45 |
| RL-W074 | 30.45 | 20.79 | 51.24 |
| RL-W076 | 4.82 | 3.28 | 8.10 |
| RL-W081 | 0.42 | 0.29 | 0.71 |
| RL-W086 | 5.32 | 3.65 | 8.97 |
| RL-W085 | 2.10 | 1.44 | 3.54 |
| RL-W080 | 26.91 | 1.94 | 28.85 |
| RL-W101 | 2.10 | 169.33 | 171.43 |
| | 8991.74 | 3116.76 | 12108.50 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 432.69 | 1.00 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 0.04 | 0.00 |
| | Other Metals | 913.46 | 0.76 | 0.00 |
| | Other Inorganic Materials | 290.75 | 1.42 | 0.00 |
| | Cellulosics | 576.85 | 114.76 | 0.00 |
| Organics | Rubber | 96.26 | 11.05 | 0.00 |
| | Plastics | 155.00 | 33.12 | 0.00 |
| | Inorganic Matrix | | | |
| Solidified Materials | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Lead/Cadmium Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RL-W083 | 0.57 | 0.04 | 0.61 |
| RL-W078 | 0.63 | 33.43 | 34.06 |
| RL-W079 | 0.42 | 22.30 | 22.72 |
| RL-W082 | 0.21 | 0.02 | 0.23 |
| | 1.83 | 55.79 | 57.62 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 252.37 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 27.37 | 0.00 |
| | Other Metals | 913.46 | 28.74 | 0.00 |
| | Other Inorganic Materials | 29.28 | 28.85 | 0.00 |
| Organics | Cellulosics | 45.27 | 7.32 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 14.87 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Soil

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RL-T02 | 4586.80 | 2907.40 | 7494.20 |
| RL-W133 | 11.97 | 274.00 | 285.97 |
| | 4698.77 | 3181.40 | 7780.17 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 0.57 | 0.02 | 0.00 |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 0.15 | 0.00 | 0.00 |
| | Other Inorganic Materials | 3072.12 | 562.87 | 0.00 |
| Organics | Cellulosics | 12.02 | 11.60 | 0.00 |
| | Rubber | | | |
| | Plastics | 12.02 | 11.58 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | 671.46 | 83.27 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RL-W135 | 2.02 | 107.00 | 109.02 |
| RL-T01 | 1987.00 | 2907.40 | 4894.40 |
| | 1989.02 | 3014.40 | 5003.42 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.57 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 101.11 | 3.42 | 0.00 |
| Organics | Cellulosics | 184.81 | 79.16 | 0.00 |
| | Rubber | 96.26 | 7.35 | 0.00 |
| | Plastics | 155.00 | 63.85 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Solidified Organic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RL-W134 | 0.42 | 22.06 | 22.48 |
| | 0.42 | 22.06 | 22.48 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 75.00 | 75.00 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: RL

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RL-T06 | 0.00 | 1227.40 | 1227.40 |
| RL-T04 | 201.00 | 1227.40 | 1428.40 |
| | 201.00 | 2454.80 | 2655.80 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 170.08 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 12.84 | 0.00 |
| | Other Metals | 24.68 | 11.42 | 0.00 |
| | Other Inorganic Materials | 29.28 | 14.83 | 0.00 |
| Organics | Cellulosics | 184.81 | 46.95 | 0.00 |
| | Rubber | 17.88 | 3.96 | 0.00 |
| | Plastics | 149.04 | 41.88 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

WASTE PARAMETERS FOR Inorganic Non-metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RL-T07 | 0.00 | 1227.40 | 1227.40 |
| | 0.00 | 1227.40 | 1227.40 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 572.12 | 572.12 | 0.00 |
| Organics | Cellulosics | 24.04 | 24.04 | 0.00 |
| | Rubber | | | |
| | Plastics | 24.04 | 24.04 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR - Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RL-T04 | 0.00 | 1227.40 | 1227.40 |
| | 0.00 | 1227.40 | 1227.40 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 290.75 | 290.75 | 0.00 |
| Organics | Cellulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------|--------------------|----------|---------|
| SA | Unknown | TRU | CH | 100.0% |
| | Unknown | MTRU | RH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: SA

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| SA-T01 | 0.00 | 46.00 | 46.00 |
| | 0.00 | 46.00 | 46.00 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: SA

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| SA-W134 | 0.95 | 0.00 | 0.95 |
| | 0.95 | 0.00 | 0.95 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| SR | Categorized Metal | TRU | CH | 100.0% |
| | Heterogeneous | MTRU | CH | 100.0% |
| | Solidified Inorganics | MTRU | CH | 100.0% |
| | Solidified Organics | MTRU | CH | 1.0% |
| | Solidified Organics | TRU | CH | 99.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: SR

WASTE PARAMETERS FOR Combustible Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| SR-T02 | 4747.10 | 2986.60 | 7733.70 |
| | 4747.10 | 2986.60 | 7733.70 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 4.23 | 1.10 | 0.00 |
| Organics | Cellulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| SR-W027 | 4955.50 | 0.00 | 4955.50 |
| SR-W026 | 66.90 | 5813.00 | 5879.90 |
| | 6022.40 | 5813.00 | 10835.40 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 4.23 | 1.10 | 0.00 |
| Organics | Cellulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| SR-W003 | 0.02 | 0.00 | 0.02 |
| | 0.02 | 0.00 | 0.02 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Solidified Organic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| SR-W006 | 0.03 | 0.00 | 0.03 |
| SR-T01 | 198.20 | 124.40 | 322.60 |
| SR-W044 | 3.25 | 0.00 | 3.25 |
| | 201.48 | 124.40 | 325.88 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 1134.62 | 323.08 | 350.96 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| WV | Categorized Metal | MTRU | CH | 7.1% |
| | Categorized Metal | TRU | CH | 92.9% |
| | Solidified Inorganics | MTRU | CH | 1.1% |
| | Solidified Inorganics | TRU | CH | 98.9% |
| | Unknown | TRU | RH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: WV

WASTE PARAMETERS FOR Lead/Cadmium Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| WV-T02 | 28.70 | 0.00 | 28.70 |
| WV-W024 | 2.19 | 0.00 | 2.19 |
| | 30.89 | 0.00 | 30.89 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|-------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Inorganic Matrix | | | |
| Solidified Materials | Organic Matrix | | | |
| | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| WV-W041 | 0.10 | 0.10 | 0.21 |
| WV-T01 | 19.20 | 0.00 | 19.20 |
| | 19.30 | 0.10 | 19.41 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Solidified Materials | Organic Matrix | | | |
| | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: WV

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| WV-T03 | 499.20 | 0.00 | 499.20 |
| | 499.20 | 0.00 | 499.20 |


Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

APPENDIX G

Sandia National Laboratories

Managed and Operated by Sandia Corporation
a subsidiary of Martin Marietta Corporation
Albuquerque, New Mexico 87185-1328

date : June 24, 1994
to : P.E. Drez, [Drez Environmental Associates]
from :  L. C. Sanchez, Org 6342, MS-1328 (505)848-0685
subject : Comments on May 9, 1994 Communications

The following is a synopsis of communications that took place on May 9, 1994 [1]. In those communications you requested responses to the following two questions:

- [1] In the radionuclide table (Table 3-3.1) located in SAND92-0700/3, there are a series of radionuclide inventories listed by isotope. This is the list that we have to replace in the WTWBIR. On the list, I thought that only isotopes with half-lives greater than 20 years were listed, but for instance, Cf-252 is listed which has a half-life of 2.64 years. Is this because it decays to Cm-248, which has a long half life? There are other isotopes which have half-lives greater than 20 years which are not reported in Table 3-3.1. Is this because of their overall low curie content in the inventory? If so what is the "cut-off" used as to whether an isotope appears in the table?
- [2] One of the strong comments by Karen Knudtsen was that we need to put in a strong justification for the different waste parameters that will be documented in the inventory. Can one or both of you work with the PA and model development people (e.g., Larry Brush) and fill in the table attached?

Per your request [1] I had talked with several people to get responses to your two questions. The responses obtained on May 9, 1994 and relayed to you were [2]:

- [1] In talking to Andy Peterson, he said that the table of radionuclides (Table 3.3-1) is a synopsis of all the available data from the sites. Any radionuclides not reported were probably due to the sites: 1) not identifying them in the waste, 2) they had been of undetectable quantities, etc. Also, the decay chains of interest (Figure 3.3-5) were those identified by SNL scientists as being the chains of interest.
- [2] The matrix which identifies the justification of waste parameters was reviewed by (see attachment):

| Matrix Column | Reviewer |
|-------------------|--|
| Current Models | Palmer Vaughn Andy Peterson Jim Schreiber Barry Butcher |
| Under Development | Larry Brush |
| Possible Future | Larry Brush |
| Overall | (none) |

REFERENCES

- [1] Informal Communications from P.E. Drez [Drez Environmental Associates] to R.D. Waters (Dept. 6622) and L.C. Sanchez (Dept. 6342) dated May 9, 1994.
- [2] Informal Communications from L.C. Sanchez (Dept. 6342) to P.E. Drez [Drez Environmental Associates] dated May 9, 1994.

· LCS:6342:lcs/(94-2029)

Copy to (with attachment):

MS-1328, D.R. Anderson [Dept. 6342]
MS-1328, M.G. Marietta [Dept. 6342]
MS-1328, J.D. Schreiber [Dept. 6342]
MS-1328, P. Vaughn [Dept. 6342]
MS-1341, B.M. Butcher [Dept. 6345]
MS-1341, L.H. Brush [Dept. 6348]
MS-1341, A.C. Peterson [Dept. 6348]
MS-1328, Day File [Dept. 6342]
MS-1328, L.C. Sanchez [Dept. 6342]

Justification of Waste Parameters

| Waste Parameter | Input Variable in <u>Current</u> PA Models | | Input Variable in PA Model <u>Under Development</u> | Input Variable in Possible <u>Future</u> PA Model | Remaining Matrix Variable to Provide Overall Waste Form Information |
|----------------------------------|--|---|---|---|---|
| Iron-Based Metals and Alloys | X | X | X | X | |
| Aluminum-Based Metals and Alloys | | X | X | X | |
| Other Metals | | X | | X | |
| Other Inorganics | | X | X | X | |
| Cellulosics | X | X | X | X | |
| Plastics | | X | X | X | |
| Rubbers | 1/2 | X | X | X | |
| Solidified Inorganics | | X | X | X | |
| Solidified Organics Matrix | | X | X | X | |
| Soils | | X | ? | ? | |
| | | | | | |

GAS GENERATION
↑
MECHANICAL CHARACTERISTICS
↑

APPENDIX H

MWIR WASTE STREAM QUESTIONNAIRE

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

1. General Site Information

1.1 Location

A. Site ID: RF
B. Site Name: Rocky Flats Plant
C. DOE Field Office: Rocky Flats
D. Data Base WS ID: RF-W012

1.2 Points of Contact

A. Primary: Bob Griffis
Address: Rocky Flats Plant
 P.O. Box 464, Bldg. T130C
 Golden, Colorado 80402-0464

Phone: 303-966-4934
Fax: 303-966-6406
E-Mail:

B. Alternate: Scott Anderson
Address:

Phone: 303-273-6164
Fax: 303-273-6245
E-Mail:

2. Waste Stream Description and Source

2.1 Waste Stream Identifiers

A. Waste stream site ID: None

B. Waste stream IMWIR ID: 118

C. Waste stream name: Combustibles/TRM

D. Previous waste stream IDs and names:

| WS ID | Waste Stream Name |
|---------|-------------------|
| IDC 330 | Combustibles, Dry |
| IDC 336 | Combustibles Wet |

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

2.1 Waste Stream Identifiers (continued)

D. Previous waste stream IDs and names (continued):

[illegible]

RF-W012

Combustibles/TRM

1 Waste Stream Identifiers (continued)**E. Ignore this waste (IMWIR waste that is being revised):** No

If yes..

then complete the following and ignore the remain

F. IDs for the newly defined waste streams:

| | | | |
|--|--|--|--|
| | | | |
|--|--|--|--|

2.2 Waste Stream Description

IDC NO. 330, 336, 337, 831, 832, 833. The waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills, involving hazardous solvents. The bulk of these wastes are packaged in 55-gallon drums with one rigid polyethylene liner and several bag liners. In addition, the waste may be repackaged into DOT 7A, Type A metal boxes which are lined with a fiberboard and PVC liner. Inventory data include mixed residues within the same IDCs.

IDC 325 This IDC is a combination of any solid waste IDCs, i.e., combustibles, metal, glass, construction rubble, etc. This IDC may be used for waste originated outside the PA only, with the exception of the waste generated during Engineered and Maintenance non-routine work, i.e., Stripout Activity in Bldg 881 and it may not be used anytime for waste originated in Bldg 886. Mixed Waste.

IDC 330 no description available.

IDC 336 - Wet combustibles are paper, cloth, etc., which contain a discernible amount of moisture. Must be drained or wrung out prior to packaging to prevent an accumulation of free liquid. This IDC changes to 822, 832, 852, or 862 at the point of assay.

IDC831 - Dry combustibles such as paper, cloth, wood, etc. This waste has been identified as being low level mixed waste.

IDC 832 - Wet combustibles are paper, cloth, etc., which contain a discernible amount of moisture. these must be drained or wrung prior to packaging to prevent accumulation of free liquid.

2.3 Generation Site**A. Generation site name:** Rocky Flats Plant**B. Buildings and areas where waste generation activities are located:**

Numerous locations throughout RFP.

RF-W012

Combustibles/TRM

2.2 Waste Stream Description (continued)

~~IDC 833 - PVC sheeting, poly bottles, supplied air suits, and other plastics. This waste has been identified as being a low level mixed waste.~~

This waste consists of rags, paper, cloth, coveralls, plastics, rubber, and wood from the cleanup of spills and equipment.

Halogenated organics are used at RFP for degreasing. Methylene chloride is used for paint removal. Ignitables are characteristic of the solvents and/or filter media. The combustibles can be used for cleaning with these organics or used for the cleanup of spent solvents. Not all of the waste in the IDCs listed in the previous section contain solvents, but the nonsolvent waste is not segregated from the solvent bearing waste at this time. Therefore, all containers of waste with the above-mentioned IDCs are considered RCRA waste and LDR. No TCLP analysis of these wastes has been conducted at this time.

RF-W012

Combustibles/TRM

2 Generation Site (continued)**C. Operations performed in buildings:****D. Process generating waste:**

This waste consists of rags, paper, cloth, coveralls, plastic, rubber, and wood. The waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills. The bulk of these wastes are packaged in 55-gallon drums with one rigid polyethylene liner and several bag liners. In addition, the waste may be packaged in DOT 7A Type A metal boxes which are lined with a fiberboard liner and a PVC liner or standard TRUPACT-II container. The containers are then assayed and transferred to interim status storage areas. These wastes have been shipped to the INEL for storage in the past.

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

2.3 Generation Site (continued)

E. Source classification:

| Applicable Sources of the Waste Stream | | | |
|--|-------------------------------|---------------------------|-----|
| Research and Development | Yes | Environmental Restoration | No |
| Operations Waste | Yes | Buried | No |
| Residues | Yes | Treatment of Waste | No |
| Retrieveably Stored Waste | No | Moratorium Waste | No |
| Decontamination and Decommissioning | Yes | Maintenance | Yes |
| EPA Source Code | A19 | | |
| EPA Waste Source | Other cleaning and degreasing | | |

2.4 Reclassification

A. Waste type: MTRU

B. Reclassified waste (< 100nCi/g of TRU): No

C. If waste is MTRU... UNKNOWN

D. Reclassification...

it could be reclassified:
or potential for reclassification:

Rocky Flats assays wastes to determine waste type instead of relying on process knowledge or historical data. For this reason, the potential for reclassification has not been analyzed.

RF-W012

Combustibles/TRM

Radiation Acceptance

3.1 Waste Radiation Characteristics

A. Handling: CH

B. Transuranic alpha emitter: >100

Units: nCi/g

C. Uranium/thorium alpha level: NC

Units:

D. Beta/gamma dose rate at the surface: NC

Units:

E. Beta/gamma dose rate 1m from the surface: NC

Units:

F. Surface neutron activity: NC

Units:

3.2 Radionuclides

A. Estimate of the uncertainty of radioactive concentration value and description of methods used to measure radioactive elements:

Concentrations based upon non-destructive analysis of waste packages. Process knowledge is also applied. The purpose of this assay is to determine whether the waste is above or below TRU threshold of 100 nCi per gram. Pu and U and their decay daughters, the only isotopes known to be used at RFP, are in the wastes.

Measurement Method: Passive-Active Counter / Crate Counter

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

3.2 Radionuclides (continued)

B. Last radionuclide analysis date:

C. Standard mix name: Weapons Grade Plutonium

D. Total activity level of the waste (nCi/g): NC

E. Radionuclides:

[illegible]

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

Secondary Waste Materials

A. Radionuclide distribution for this waste stream includes additional waste materials that are occasionally mixed in or included: No

B. Percent of radionuclide activity this additional waste contributes:

C. Secondary radionuclides:

[illegible]

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

3.4 Radionuclide Contamination Accessibility

- A. External surface only: No
B. Internal surface only: No
C. Contamination dispersed through matrix: Yes

4. Matrix

4.1 Overall Composite Matrix

- A. Waste matrix code: 5440
B. Waste matrix name: Predominantly Combustible Debris

4.2 Specific Matrix Constituents

- A. Percent is by weight or volume:
B. Sum: 0
C. Waste matrix type:

| WM Code | Matrices/Constituent Name | Average % | Lower Limit % | Upper Limit % |
|---------|--------------------------------|-----------|---------------|---------------|
| 5330 | Paper and rags | UNK | | |
| 5320 | Wood Debris | UNK | | |
| 5390 | Non-halogenated organic solids | UNK | | |
| 5310 | Plastics and rubber | UNK | | |
| 5190 | Metals | UNK | | |
| 5220 | Glass | UNK | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| | |
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| RF-W012 | Combustibles/TRM |
|---------|------------------|

3 Cation/Anion

A. Cations and anions present in the waste and..

if available

Not applicable

4.4 Previous Treatment

A. Waste stream has been super-compacted: No

B. Waste stream has been shredded: No

C. Waste stream has been immobilized at the container level: No

D. Waste stream has been immobilized in sizes less than container level: No

E. Waste stream has been treated: No

If yes..

treatment was for LDR:

F. Waste stream can be removed easily from its container: Yes

4.5 Other Waste Characteristics (for Aqueous Streams Only)

A. Total dissolved solids (%):

B. Total suspended solids (%):

C. Total organic content (%):

D. pH:

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

4.5 Other Waste Characteristics (continued)

E. Other waste characteristics:

No information available

5. Regulated Characteristics and Contaminants

5.1 Characterization Basis

A. Uncertainty of the contamination concentration value:

A- Process knowledge based upon general knowledge of waste type or source.

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

..1 Characterization Basis (continued)

- B. Sampling program was a statistical program that was based on random sampling: No
 C. Concerning waste streams for which sampling and analysis has been initiated..
 approximate percentage of waste containers sampled:
 D. Total number of samples that have been analyzed:

5.2 Contaminant List

| EPA Code | Contaminant Name | Typical | Lower Limit | Upper Limit | Unit | Basis | TCLP Level |
|----------|----------------------|---------|-------------|-------------|------|-------|------------|
| F001 | 1.. | | | 1.. | | A | |
| F001 | Carbon Tetrachloride | | | | | A | |
| F002 | Freon | | | | | A | |
| F002 | Methylene Chloride | | | | | A | |
| F005A | Toluene | | | | | A | |
| F005A | Methyl ethyl ketone | | | | | A | |

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

5.3 Plating Contaminants for F006 - F009 Wastes

[illegible]

RF-W012

Combustibles/TRM

4 PCBs

- A. PCB concentration (ppm): 0
 B. Portion of waste containing PCBs (%):
 C. If not 100%..

the PCBs are segregated and can be treated

5.5 Asbestos

- A. Waste stream contains asbestos: No
 B. For known or potential presence of asbestos...
 for determining the quantity present:

the conditi

| |
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| |
|--|

6. Waste Inventory/Generation

6.1 Date of Last Inventory: 01/04/93

6.2 Stored Waste

A. Net stored waste information: *

| | Volume (m3) | Mass (kg) |
|---|-------------|-----------|
| Net stored non-LDR waste as of 12/31/92 | 0.0 | 0.0 |
| Numeric value is present | Yes | Yes |
| Numeric value | 0.00000 | 0.00000 |
| Units | | |
| Net stored LDR waste as of 12/31/92 | UNK | UNK |
| Numeric value is present | No | No |
| Numeric value | 0.00000 | 0.00000 |
| Units | | |

* Note that rows in italics were added to facilitate processing numeric values.

RF-W012

Combustibles/TRM

6.2 Stored Waste (continued)

A. Net stored waste information (continued): *

| | Volume (m3) | Mass (kg) |
|--|-------------|-----------|
| Net stored non-LDR waste as of other date: | | |
| Numeric value is present | No | No |
| Numeric value | 0.00000 | 0.00000 |
| Units | | |
| Net stored LDR waste as of other date: | | |
| Numeric value is present | No | No |
| Numeric value | 0.00000 | 0.00000 |
| Units | | |

B. Gross stored waste information: *

| | Volume (m3) | Mass (kg) |
|--|-------------|-----------|
| Gross stored non-LDR waste as of 12/31/92 | 0.0 | 0.0 |
| Numeric value is present | Yes | Yes |
| Numeric value | 0.00000 | 0.00000 |
| Units | | |
| Gross stored LDR waste as of 12/31/92 | 267.91 | UNK |
| Numeric value is present | Yes | No |
| Numeric value | 267.91000 | 0.00000 |
| Units | | |
| Gross stored non-LDR waste as of other date: | | |
| Numeric value is present | No | No |
| Numeric value | 0.00000 | 0.00000 |
| Units | | |

* Note that rows in italics were added to facilitate processing numeric values.

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

Stored Waste (continued)

B. Gross stored waste information (continued): *

| | Volume (m3) | Mass (kg) |
|--|-------------|-----------|
| Gross stored LDR waste as of other date: | | |
| Numeric value is present | No | No |
| Numeric value | 0.00000 | 0.00000 |
| Units | | |

C. Basis for determining LDR storage prohibition status:

Net and gross weight data are not available for all container types.

RFP has assumed this waste to be LDR based on process knowledge characterization, and one sample analyzed for volatiles in 1988. RFP currently manages all of its mixed waste as LDR storage prohibited, independent of its generation date.

1. Variability surrounding fullness of containers precludes a meaningful computation of density.

2. Basis for determining LDR storage prohibition status is based primarily on process knowledge. Analytical data are limited due to the lack of capacity to perform Toxicity Characterization Leaching Procedure (TCLP) on mixed waste at the Rocky Flats Plant.

** Note that rows in italics were added to facilitate processing numeric values.*

3. Total inventory volume for purpose of national summary (m3): 267.910000

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

6.3 Projected Waste Generation

A. Expected generation termination date:

B. Waste projections: *

| | Volume (m3) | Mass (kg) |
|-----------------------------|-------------|-----------|
| Projected 1993 generation | 24.88 | UNK |
| Numeric value is present | Yes | No |
| Numeric value | 24.88000 | 0.00000 |
| Numeric modifier (GT/LT/AP) | | |
| Lower limit | 0.00000 | 0.00000 |
| Upper limit | 0.00000 | 0.00000 |
| Units | | |
| Projected 1994 generation | 24.88 | UNK |
| Numeric value is present | Yes | No |
| Numeric value | 24.88000 | 0.00000 |
| Numeric modifier (GT/LT/AP) | | |
| Lower limit | 0.00000 | 0.00000 |
| Upper limit | 0.00000 | 0.00000 |
| Units | | |
| Projected 1995 generation | 24.88 | UNK |
| Numeric value is present | Yes | No |
| Numeric value | 24.88000 | 0.00000 |
| Numeric modifier (GT/LT/AP) | | |
| Lower limit | 0.00000 | 0.00000 |
| Upper limit | 0.00000 | 0.00000 |
| Units | | |

* Note that rows in italics were added to facilitate processing numeric values.

RF-W012

Combustibles/TRM

Projected Waste Generation (continued) *

| | Volume (m3) | Mass (kg) |
|--|-------------|-----------|
| Projected 1996 generation | 24.88 | UNK |
| Numeric value is present | Yes | No |
| Numeric value | 24.88000 | 0.00000 |
| Numeric modifier (GT/LT/AP) | | |
| Lower limit | 0.00000 | 0.00000 |
| Upper limit | 0.00000 | 0.00000 |
| Units | | |
| Projected 1997 generation | 24.88 | UNK |
| Numeric value is present | Yes | No |
| Numeric value | 24.88000 | 0.00000 |
| Numeric modifier (GT/LT/AP) | | |
| Lower limit | 0.00000 | 0.00000 |
| Upper limit | 0.00000 | 0.00000 |
| Units | | |
| Projected 1998 through 2002 generation | UNK | UNK |
| Numeric value is present | No | No |
| Numeric value | 0.00000 | 0.00000 |
| Numeric modifier (GT/LT/AP) | | |
| Lower limit | 0.00000 | 0.00000 |
| Upper limit | 0.00000 | 0.00000 |
| Units | | |

* Note that rows in italics were added to facilitate processing numeric values.

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

6.3 Projected Waste Generation (continued) *

| | Volume (m3) | Mass (kg) |
|--|-------------|-----------|
| Projected 2003 through 2022 generation | UNK | UNK |
| Numeric value is present | No | No |
| Numeric value | 0.00000 | 0.00000 |
| Numeric modifier (GT/LT/AP) | | |
| Lower limit | 0.00000 | 0.00000 |
| Upper limit | 0.00000 | 0.00000 |
| Units | | |

7. Waste Packaging

This waste is stored in 55 gallon carbon steel drums with one rigid polyethylene liner and several bag liners and TRUPACT II Containers.

* Note that rows in italics were added to facilitate processing numeric values.

Combustibles/TRM

1 Type of Storage

[illegible]

RF-W012

Combustibles/TRM

7.2 Readiness of Existing TRU Waste for Shipping and Emplacement in WIPP

A. Percentage of existing TRU waste containers meeting the Operations and Safety (O&S) criteria in the WIPP Waste Acceptance Criteria (WAC).. Revision 4

___ % 55 gallon drums
___ % boxes
76 % Other: total

B. Treatment needed:

Repackaging to meet decay heat limit; completion of data package.

C. Percentage of existing waste containers that would be expected to meet the TRUPACT-II TRAMPAC requirements in the WIPP WAC.. Revision 4

___ % 55 gallon drums
___ % boxes
76 % Other: total

D. Waste stream is listed in the WIPP TRUPACT-II Content Code (TRUCON) document: Yes

E. TRUCON code: 116

F. Head space gas has been sampled from one or more waste containers: UNKNOWN

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Combustibles/TRM

Waste Stream Management

8.1 Current Management

A. Current management:

C. Generated and Stored Only

B. Treatment or disposal rate for the waste stream expressed in volume per year:

* *Units (m³/yr):*

C. Treatment or disposal rate for the waste stream expressed in mass per year:

* *Units (kg/yr):*

8.2 Planned Management for LDRs

A. Future management of waste stream for complying with LDR treatment standards:

F. Planned to send to WIPP (TRU only).

* *Note that items in italics were added to facilitate processing numeric values.*

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

8.3 Treatment Technology

A. Technologies to be applied:

| |
|------------------------------|
| Repackaging to meet WIPP WAC |
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RF-W012

Combustibles/TRM

Treatment Technology (continued)

B. Assigned treatment facility name:

CTMP Treatment System Path F

C. Assigned treatment system name:

CTMP Treatment System Path F

Assigned treatment system ID:

D. Facility agrees to treat: UNKNOWN

E. Waste in assigned facility permit: UNKNOWN

F. Waste in future facility permit: UNKNOWN

G. Other pre-treatment requirements or treatment concerns:

Treatment of most mixed transuranic waste to meet LDR treatment standards is not applicable because DOE plans to ship these wastes to the Waste Isolation Pilot Plant (WIPP), pending issuance of a No-Migration Determination of the operational phase. Pretreatment to meet the WIPP Waste Acceptance Criteria may be required.

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Combustibles/TRM

8.4 Technology Status

A. Status of the technology to treat this waste:

C. Technology exists but needs modification

B. Identified technologies:

Repackaging to meet WIPP WAC

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Combustibles/TRM

Technology Status (continued)

C. Need..

reason and status for modification:

Testing is needed to adapt technology to site specific compositions and radionuclides.

D. Basis for the technology status:

The existing technologies are not directly suitable for use with radioactive mixed wastes and require development work to bridge the gap between non-radioactive and radioactive streams.

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

8.4 Technology Status (continued)

E. Technology development associated with treatment of waste stream:

Technology exists. Needs modification or verification for application to DOE waste streams.

F. Relevant TTP..

ADS..

TTP #: RF142001 Subtask 02 ADS #: 3822 TDD # : 3822.F17 (THERMAL) / #3822.F21 (NON-THERMAL)

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Combustibles/TRM

Treatment Concerns

A. Special or unique treatment or facility concerns that this waste stream presents and that may impact the use of standard treatment methods:

The radioactive nature of the waste stream requires that the candidate technologies be examined to identify necessary process or equipment modifications dictated by the radioactivity.

Regulatory Concerns

9.1 Compliance Agreements

**A. For waste covered by an EPA or state LDR compliance agreement..
and when it was issued:**

FFCA II - May 10,1991

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Combustibles/TRM

9.2 Applicable Regulations

A. RCRA: Yes
B. State hazardous waste: Yes
C. TSCA: No
D. CERCLA: No

9.3 Waste meets LDR treatment standard: No

A. Basis for determination:

Process knowledge

9.4 Delisting

A. Waste stream has been delisted or is being considered for delisting: No
B. A petition has been submitted:
C. Date of submission:
D. Date of approval:

9.5 Waste Minimization Activities

A. Applicable activities:

A. Good operating practices
B. Technology changes
F. Changes in operating status

B. Appropriate waste minimization codes:

W13

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Combustibles/TRM

Waste Minimization Activities (continued)

C. Description of waste minimization activities:

10. Storage Location

A. Current storage location:

Building 776, RCRA Unit 11 & 69
Building 374, RCRA Unit 19
Building 664, RCRA Unit 20 and RTR
Building 569, RCRA Unit 59
Building 371, RCRA Unit 63
Building 771, RCRA Unit 665 & 90.75

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Combustibles/TRM

11. Data Acceptance

11.1 Information about this waste stream was omitted because it is classified: No

11.2 Date form completed: 12/21/93

11.3 Additional Comments:

APPENDIX I

APPENDIX I
IDB TOTALS FOR WASTE RADIONUCLIDES DERIVED FROM
TRU WASTE, DECAYED & ACCUMULATED TO DEC 1992

| <u>RADIONUCLIDE</u> | <u>CH</u> <u>CURIES</u> | <u>RH</u> <u>CURIES</u> |
|---------------------|----------------------------|----------------------------|
| Ac-225 | 2.85E-01 | 1.30E+00 |
| Ac-227 | 2.55E-01 | 4.42E-02 |
| Ac-228 | 3.79E-01 | 2.07E-03 |
| Ag109M | 1.68E+01 | 4.56E-08 |
| Ag110 | 4.98E-06 | 5.13E-07 |
| Ag110M | 3.74E-04 | 4.20E-05 |
| Am-241 | 4.13E+04 | 8.98E+04 |
| Am-242 | 1.25E-03 | 0.00E+00 |
| Am-242M | 1.26E-03 | 0.00E+00 |
| Am-243 | 1.62E+01 | 3.80E-01 |
| At-217 | 1.54E+00 | 4.13E-02 |
| Ba137M | 1.88E+03 | 2.78E+04 |
| Bi-209 | 0.00E+00 | 0.00E+00 |
| Bi-210 | 3.92E-01 | 3.56E-01 |
| Bi-211 | 2.98E-01 | 1.71E-03 |
| Bi-212 | 2.73E+01 | 1.31E+00 |
| Bi-213 | 1.54E+00 | 4.13E-02 |
| Bi-214 | 3.13E+00 | 2.47E+00 |
| Bk-249 | 3.91E-04 | 8.26E-04 |
| Bk-250 | 2.81E-05 | 0.00E+00 |
| C14 | 6.05E+00 | 7.41E+02 |
| Cd109 | 1.68E+01 | 0.00E+00 |
| Cd113M | 1.61E-05 | 1.17E-04 |
| Ce144 | 6.53E+01 | 8.85E+01 |
| Cf-249 | 1.14E+00 | 2.37E-02 |
| Cf-250 | 5.87E-01 | 2.12E-01 |
| Cf-251 | 3.85E-02 | 0.00E+00 |
| Cf-252 | 1.09E+02 | 1.10E+01 |
| Cm-242 | 1.50E-02 | 2.87E-06 |
| Cm-243 | 5.47E-01 | 3.41E+02 |
| Cm-244 | 3.94E+04 | 2.57E+03 |
| Cm-245 | 1.68E+01 | 7.63E-06 |
| Cm-246 | 4.15E-02 | 1.84E-03 |
| Cm-247 | 1.13E-09 | 0.00E+00 |
| Cm-248 | 2.72E-02 | 3.70E-04 |
| Co58 | 6.39E-04 | 2.40E-06 |
| Co60 | 1.21E+02 | 7.41E+03 |
| Cr51 | 0.00E+00 | 1.67E-28 |
| Cs134 | 2.68E+00 | 3.04E+02 |
| Cs135 | 2.62E-03 | 2.46E-02 |
| Cs137 | 1.98E+03 | 2.94E+04 |
| Es-253 | 3.27E-26 | 0.00E+00 |
| Es-254 | 2.81E-05 | 0.00E+00 |

| | | |
|---------|----------|----------|
| Eu150 | 3.71E-05 | 0.00E+00 |
| Eu152 | 3.49E+00 | 9.51E+03 |
| Eu154 | 1.11E+01 | 6.50E+03 |
| Eu155 | 1.60E+01 | 1.74E+03 |
| Fe55 | 4.25E-05 | 1.33E+00 |
| Fe59 | 4.00E+00 | 1.34E+00 |
| Fr-221 | 1.54E+00 | 4.13E-02 |
| Fr-223 | 4.10E-03 | 2.46E-05 |
| H3 | 1.37E+05 | 1.16E+01 |
| I129 | 4.16E-10 | 0.00E+00 |
| Kr85 | 2.38E-01 | 7.23E+00 |
| Mn54 | 1.48E-02 | 1.21E+00 |
| Nb95 | 8.03E+00 | 3.71E+00 |
| Nb95M | 8.07E-02 | 1.94E-02 |
| Ni63 | 9.27E-05 | 3.58E+00 |
| Np-237 | 1.68E+01 | 7.66E-01 |
| Np-238 | 6.29E-06 | 0.00E+00 |
| Np-239 | 1.66E+01 | 1.01E-03 |
| Np-240 | 1.10E-09 | 2.64E-14 |
| Np-240M | 1.00E-06 | 2.40E-11 |
| Pa-231 | 1.87E-03 | 2.18E-02 |
| Pa-233 | 1.68E+01 | 7.63E-01 |
| Pa-234 | 8.04E-03 | 2.84E-03 |
| Pa-234M | 6.18E+00 | 2.18E+00 |
| Pb-206 | 0.00E+00 | 0.00E+00 |
| Pb-207 | 0.00E+00 | 0.00E+00 |
| Pb-208 | 0.00E+00 | 0.00E+00 |
| Pb-209 | 1.54E+00 | 4.13E-02 |
| Pb-210 | 3.67E-01 | 3.81E-01 |
| Pb-211 | 2.98E-01 | 1.71E-03 |
| Pb-212 | 2.73E+01 | 1.31E+00 |
| Pb-214 | 3.13E+00 | 2.47E+00 |
| Pd107 | 3.88E-04 | 3.63E-03 |
| Pm147 | 5.37E+02 | 1.11E+03 |
| Po-210 | 3.12E-01 | 3.30E-01 |
| Po-211 | 8.15E-04 | 4.66E-06 |
| Po-212 | 1.75E+01 | 8.38E-01 |
| Po-213 | 1.51E+00 | 4.04E-02 |
| Po-214 | 3.13E+00 | 2.47E+00 |
| Po-215 | 2.98E-01 | 1.71E-03 |
| Po-216 | 2.73E+01 | 1.31E+00 |
| Po-218 | 3.13E+00 | 2.47E+00 |
| Pr144 | 6.53E+01 | 8.85E+01 |
| Pu-236 | 0.00E+00 | 2.15E-02 |
| Pu-238 | 5.81E+05 | 6.17E+04 |
| Pu-239 | 1.23E+05 | 4.08E+04 |
| Pu-240 | 1.63E+04 | 9.98E+03 |
| Pu-241 | 3.24E+05 | 1.78E+05 |
| Pu-242 | 4.91E+02 | 9.48E-01 |
| Pu-243 | 1.13E-09 | 2.86E-07 |
| Pu-244 | 1.00E-06 | 2.40E-11 |

| | | |
|-------------|-----------------|-----------------|
| Ra-223 | 2.56E-01 | 4.43E-02 |
| Ra-224 | 5.50E-01 | 2.81E+01 |
| Ra-225 | 2.86E-01 | 1.30E+00 |
| Ra-226 | 3.08E+00 | 2.52E+00 |
| Ra-228 | 8.03E-02 | 3.01E-01 |
| Rh106 | 2.59E+01 | 6.29E+01 |
| Rn-219 | 2.98E-01 | 1.71E-03 |
| Rn-220 | 2.73E+01 | 1.31E+00 |
| Rn-222 | 3.13E+00 | 2.47E+00 |
| Ru106 | 2.59E+01 | 6.29E+01 |
| Sb125 | 6.61E+00 | 1.67E+01 |
| Sb126 | 7.05E-04 | 6.61E-03 |
| Sb126M | 5.04E-03 | 4.72E-02 |
| Se79 | 2.28E-03 | 2.13E-02 |
| Sm151 | 8.34E+00 | 7.51E+01 |
| Sn119M | 6.25E-03 | 7.15E-04 |
| Sn121M | 1.62E-01 | 1.41E+00 |
| Sn123M | 1.41E-03 | 2.34E-04 |
| Sn126 | 5.04E-03 | 4.72E-02 |
| Sr90 | 1.44E+03 | 5.75E+04 |
| Ta182 | 0.00E+00 | 1.10E-04 |
| Tc99 | 1.79E+01 | 1.22E+00 |
| Te125M | 1.68E-02 | 2.76E-03 |
| Te127 | 1.02E-01 | 1.70E-02 |
| Te127M | 1.05E-01 | 1.74E-02 |
| Th-227 | 2.55E-01 | 4.43E-02 |
| Th-228 | 5.64E-01 | 2.81E+01 |
| Th-229 | 2.87E-01 | 1.31E+00 |
| Th-230 | 7.45E-03 | 2.08E-02 |
| Th-231 | 1.05E+00 | 3.67E+02 |
| Th-232 | 1.01E-01 | 3.33E-01 |
| Th-234 | 6.07E+00 | 2.30E+00 |
| Tl-207 | 2.98E-01 | 1.70E-03 |
| Tl-208 | 9.82E+00 | 4.70E-01 |
| Tl-209 | 3.33E-02 | 8.93E-04 |
| U-232 | 3.08E-01 | 2.80E+01 |
| U-233 | 2.14E+02 | 1.04E+03 |
| U-234 | 5.74E+01 | 6.94E+00 |
| U-235 | 9.94E-01 | 3.67E+02 |
| U-236 | 2.52E-03 | 4.46E-03 |
| U-237 | 1.22E+01 | 1.19E-01 |
| U-238 | 6.08E+00 | 2.30E+00 |
| U-240 | 1.00E-06 | 2.40E-11 |
| Y90 | 1.44E+03 | 5.75E+04 |
| Zn65 | 3.41E-08 | 2.80E-04 |
| Zr93 | 2.94E-02 | 2.76E-01 |
| <u>Zr95</u> | <u>3.80E+00</u> | <u>3.34E+01</u> |
| TOTAL | 1.27E+06 | 5.85E+05 |

ASSUMPTIONS:

1. Activities reported by individual sites in 1993 IDB are complete and accurate except for values marked as UNK which are counted as 0.
2. Equivalent Pu239 Activities.
3. Calculations to "decay" values reported by DOE sites were performed correctly and assumptions stated in the 1993 IDB are valid.
4. Site reporting was done in accordance with the instructions in the 1993 IDB data call.
5. All values stated in curies in scientific notation.

METHODOLOGY:

The figures presented here were arrived at by summing the calculated decayed values in the 1993 IDB from data reported by DOE sites managing TRU waste in response to a formal nationwide data call.

NOTE: The figures here require scaling by an appropriate methodology to arrive at "WIPP Design" values.

APPENDIX J

APPENDIX J

METHODOLOGY FOR CHANGING TRU WASTE GENERATOR/STORAGE SITE IDCs

In order to develop a waste characterization package for each waste stream at each DOE TRU waste generator/storage site, it was necessary to correlate the information in the MWIR, the NID, and the IDB. Because these databases were generated at different times to meet different requirements, the nomenclature, waste descriptions, waste codes, waste groupings, and waste streams can be different in each database.

Changing TRU Waste Generator/Storage Site IDCs

An important step in developing the correlation between the three databases was to relate the waste streams in the MWIR with those in the NID. If the MWIR waste stream did not have a direct correlation with a NID waste stream (IDCs did not match), then the information in the MWIR was closely examined to determine the physical and chemical properties of the waste stream.

There are several sections in the MWIR that provide information on waste stream characterization. The first sections evaluated were the "Waste Stream Description" and the "Waste Matrix Code." The "Waste Stream Description" section generally provided a physical and chemical description of the stream. The detail of information provided varied by site and by waste stream. At times it provided information about the generating process and required treatment to meet WIPP WAC. The "Waste Matrix Code" section provided a general overview of the physical and chemical waste form. The WMCs were especially helpful in determining the physical state of the waste when the waste stream description did not define the waste as solid, particulate, liquid, or sludge. Additionally, if the waste stream description provided a variety of types of waste (e.g., sludge, combustibles, etc.) the WMC was helpful in determining the composition of the majority of the waste stream. A list of specific waste matrix constituents was provided for each waste stream. These were usually similar for each stream. At times, several dissimilar codes were provided for one stream. An overall composite matrix code was provided for these streams, which was assumed to be the characterization of the majority of the waste stream (as defined in Appendix C of the WTWBIR).

If the MWIR data were not adequate to describe the waste stream, other sections of the MWIR were evaluated. The "Generating Site" section was used primarily to determine the generating site of waste streams stored at the INEL. The "Waste Names/WS ID" section provided a brief description of the waste stream. This was especially helpful in characterizing IN waste streams. This section provided "Waste Stream IDs" and "Previous Waste Stream IDs." These IN identification numbers could be related to the identification numbers of the generating sites, thus making it possible to go to the waste descriptions of the generating sites.

The "Cation/Anion" section provided information regarding previous treatment of the waste. This was helpful in determining if the waste has been compacted or solidified. The "Other Characterization" section was used in determining if a waste stream was organic or inorganic. The "Waste Packaging" section provided some information on the physical state of the waste, especially for liquid waste streams. The "MTRU Readiness" section was helpful in determining if the waste stream required treatment prior to meeting the WIPP WAC. Liquid, particulate, and reactive waste streams were identified as requiring treatment. The "Treat./Tech.," "Treatment Concerns," and "Regulatory Concerns" sections provided additional details on the treatment requirements of the waste stream and descriptions of the final waste form.

After evaluating all information in the MWIR, the waste streams in the NID (for the same TRU waste generating/storage site) were reviewed to identify a similar waste stream. Most of the waste streams in the NID are described in detail in the TRUCON (DOE, 1992). If adequate information was not available in the NID to develop an understanding of the waste stream, further information in TRUCON was reviewed. If a similar waste stream from the same site could be identified in the NID, the waste material parameter data from this NID waste stream were assigned to the particular waste stream profile.

If a similar waste stream from the same site could not be identified in the NID, then waste streams in the NID from other sites were reviewed and a similar waste stream was identified. The waste material parameter data from this NID waste stream were assigned to the waste stream profile.

There were four conditions that required the site IDC to be modified for the purposes of the WTWBIR.

1. The waste stream description indicated that the waste was expected to be WIPP WAC certifiable, but there was no corresponding IDC in the NID for that waste stream.
2. The waste stream description indicated that the waste was a liquid waste. Liquid waste streams do not meet disposal criteria for WIPP. It was assumed that these waste streams will be solidified prior to emplacement in the WIPP. The waste stream was assigned an IDC and waste material parameter data that corresponds to the solidified final waste form. When solidification occurs, there will be a volume increase. This volume increase was assumed to be 5:1.
3. The waste stream description indicated that the waste was a particulate waste stream. Particulate waste streams do not meet disposal criteria for WIPP. It was assumed that these waste streams will be solidified prior to emplacement in the WIPP. The waste stream was assigned an IDC and waste material parameter data that corresponds to the solidified final waste form. When solidification occurs, there will be a volume increase. This volume increase was assumed to be 4:1.
4. The TRU waste generating/storage site listed the waste stream as "unknown," but the waste stream description provided enough information to reclassify the waste.

APPENDIX K

APPENDIX K
WASTE STREAM IDENTIFICATION CROSS-CORRELATION TABLE

| <u>WS UNIQUID</u> | <u>MWIR IDC¹</u> | <u>TRUCON^{2,3}</u> | <u>NMVP^{2,3}</u> | <u>PART B²</u> |
|-------------------|-----------------------------|-----------------------------|---------------------------|---------------------------------|
| AE-W038 | NR | II | II | II |
| AE-W039 | NR | II | II | II |
| AE-W040 | NR | II | II | II |
| AE-W041 | NR | II | II | II |
| AE-W042 | NR | II | II | II |
| AL-W005 | Glovebox | II | II | II |
| AW-W016 | 245T | II | II | II |
| AW-W018 | 180T | II | II | II |
| AW-W019 | 182T | II | II | II |
| AW-W020 | 241T | II | II | II |
| AW-W021 | 243T | II | II | II |
| AW-W022 | 246T | II | II | II |
| AW-W024 | 503 | II | II | II |
| ET-W002 | ET | II | II | II |
| IN-W112 | 172 | II | II | Filters (Unspecified) |
| IN-W139 | NR | II | II | Metal (Unspecified) |
| IN-W146 | NR | II | II | II |
| IN-W157 | 004 | ID213 | ID213 | Solidified Liquid |
| IN-W159 | 811 | II | II | II |
| IN-W161 | 371 | ID222 | ID122 | Firebrick and Ceramic Crucibles |
| IN-W163 | 375 | ID122 | ID122 | Firebrick and Ceramic Crucibles |
| IN-W164 | 700 | ID112 | ID112 | Organic Liquid/Sludge |

¹ NR = Not Reported

² II = Insufficient Information was provided by the site to determine the code.

³ TRUCON and NMVP Codes cannot be assigned unless the site provides a corresponding waste IDC or TRUCON number in MWIR.

⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MWIR by the storage/generating site.

| | | | | |
|---------|-----|--------------------|--------------------|--|
| IN-W166 | 114 | ID114 ³ | ID114 ³ | Inorganic Process Solids and Soil |
| IN-W167 | 112 | ID112 ³ | ID112 ³ | Organic Liquid/Sludge (Unspecified) |
| IN-W169 | 330 | ID216 | ID216 | Combustibles |
| IN-W170 | 120 | II | II | Combustibles (Unspecified) |
| IN-W171 | 110 | II | II | Combustibles (Unspecified) |
| IN-W172 | 010 | II | II | Combustibles (Unspecified) |
| IN-W174 | 834 | II | II | II |
| IN-W177 | 835 | II | II | II |
| IN-W179 | 836 | II | II | II |
| IN-W181 | 978 | ID211 | ID211 | Inorganic Waste Water Treatment Sludge |
| IN-W186 | 116 | ID116 ³ | ID116 ³ | Combustibles (Unspecified) |
| IN-W187 | 980 | II | II | II |
| IN-W188 | 976 | ID211 | ID211 | Inorganic Waste Water Treatment Sludge |
| IN-W189 | 464 | ID221 | ID221 | Benelex and Plexiglas |
| IN-W197 | 336 | ID216 | ID216 | Combustibles |
| IN-W198 | 337 | ID216 | ID216 | Combustibles |
| IN-W199 | 460 | II | ID NYD | Combustibles (Unspecified) |
| IN-W202 | 970 | ID216 | ID216 | Combustibles |
| IN-W203 | 826 | II | II | Combustibles (Unspecified) |
| IN-W204 | 827 | II | II | Combustibles (Unspecified) |
| IN-W205 | 900 | ID216 | ID216 | Combustibles |
| IN-W206 | 119 | ID119 ³ | ID119 ³ | Filters (Unspecified) |
| IN-W207 | 328 | II | II | Filters (Unspecified) |
| IN-W208 | 335 | ID219 | ID219 | Filters |
| IN-W209 | 338 | ID219 | ID219 | Filters |
| IN-W210 | 360 | II | ID NYD | Filters (Unspecified) |
| IN-W211 | 376 | ID119 | ID119 | Filters |
| IN-W212 | 490 | ID219 | ID219 | Filters |

¹ NR = Not Reported

² II = Insufficient Information was provided by the site to determine the code.

³ TRUCON and NMVP Codes cannot be assigned unless the site provides a corresponding waste IDC or TRUCON number in MMIR.

⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MMIR by the storage/generating site.

| <u>WS UNIQUID</u> | <u>MWIR IDC¹</u> | <u>TRUCON^{2,3}</u> | <u>NMVP^{2,3}</u> | <u>PART B²</u> |
|-------------------|-----------------------------|-----------------------------|---------------------------|--|
| IN-W213 | 805 | II | II | Filters (Unspecified) |
| IN-W214 | 813 | II | II | II |
| IN-W216 | 001 | ID211 | ID211 | Inorganic Waste Water Treatment Sludge |
| IN-W218 | 007 | ID211 | ID211 | Inorganic Waste Water Treatment Sludge |
| IN-W219 | 030 | II | II | II |
| IN-W220 | 111 | ID111 ³ | ID111 ³ | Inorganic Waste Water Treatment Sludge (Unspecified) |
| IN-W221 | 113 | ID113 ³ | ID113 ³ | Solidified Liquid (Unspecified) |
| IN-W222 | 292 | II | II | II |
| IN-W225 | 302 | ID221 | ID221 | Benelex and Plexiglas |
| IN-W228 | 002 | ID211 | ID211 | Inorganic Waste Water Treatment Sludge |
| IN-W230 | 122 | ID122 ³ | ID122 ³ | Firebrick and Ceramic Crucibles |
| IN-W240 | 118 | ID118 ³ | ID118 ³ | Glass (Unspecified) |
| IN-W243 | 440 | ID218 | ID218 | Glass |
| IN-W245 | 441 | ID225 | ID225 | Glass (Oil Residue) |
| IN-W247 | 442 | ID218 | ID218 | Glass |
| IN-W249 | 810 | II | II | Glass (Unspecified) |
| IN-W250 | 123 | ID123 ³ | ID123 ³ | Leaded Rubber (Unspecified) |
| IN-W252 | 339 | ID223 | ID223 | Leaded Rubber |
| IN-W254 | 463 | ID223 | ID223 | Leaded Rubber |
| IN-W256 | 802 | II | ID NYD | Leaded Rubber (Unspecified) |
| IN-W257 | 151 | II | II | II |
| IN-W259 | 104 | II | II | II |
| IN-W260 | 040 | II | ID NYD | II |
| IN-W263 | 842 | II | II | II |
| IN-W265 | 374 | ID121 | ID121 | Benelex and Plexiglas |
| IN-W267 | 372 | II | II | II |

¹ NR = Not Reported

² II = Insufficient Information was provided by the site to determine the code.

³ TRUCON and NMVP Codes cannot be assigned unless the site provides a corresponding waste IDC or TRUCON number in MWIR.

⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MWIR by the storage/generating site.

| <u>WS UNIQID</u> | <u>MWIR IDC¹</u> | <u>TRUCON^{2,3}</u> | <u>NMVP^{2,3}</u> | <u>PART B²</u> |
|------------------|-----------------------------|-----------------------------|---------------------------|---------------------------------|
| IN-W269 | 150 | II | II | II |
| IN-W271 | 814 | II | II | II |
| IN-W272 | 312 | ID115 | ID115 | Graphite |
| IN-W275 | 301 | II | II | Graphite (Unspecified) |
| IN-W276 | 300 | ID215 | ID215 | Graphite |
| IN-W278 | 950 | II | II | II |
| IN-W280 | 803 | II | II | Metal (Unspecified) |
| IN-W281 | 824 | II | II | II |
| IN-W283 | 241 | ID225 | ID225 | Glass (Unspecified) |
| IN-W285 | 201 | II | ID NYD | II |
| IN-W287 | 101 | II | ID NYD | II |
| IN-W289 | 121 | II | II | II |
| IN-W291 | 100 | II | II | II |
| IN-W294 | 481 | ID217 | ID217 | Metal |
| IN-W296 | 480 | ID217 | ID217 | Metal |
| IN-W298 | 320 | ID217 | ID217 | Metal |
| IN-W300 | 117 | ID117 ³ | ID117 ³ | Metal (Unspecified) |
| IN-W302 | 020 | II | II | Metal (Unspecified) |
| IN-W306 | 9999 | II | II | II |
| IN-W308 | 000 | II | II | II |
| IN-W309 | 003 | ID212 | ID212 | Organic Liquid/Sludge |
| IN-W311 | 409 | II | II | Pyrochemical Salt (Unspecified) |
| IN-W312 | 124 | II | II | Pyrochemical Salt (Unspecified) |
| IN-W314 | 414 | II | II | Pyrochemical Salt (Unspecified) |
| IN-W315 | 005 | II | II | Pyrochemical Salt (Unspecified) |
| IN-W317 | 432 | II | II | II |
| IN-W319 | 431 | II | II | II |
| IN-W321 | 430 | II | II | II |
| IN-W323 | 153 | II | II | II |

¹ NR = Not Reported

² II = Insufficient Information was provided by the site to determine the code.

³ TRUCON and NMVP Codes cannot be assigned unless the site provides a corresponding waste IDC or TRUCON number in MWIR.

⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MWIR by the storage/generating site.

| <u>WS UNIQUID</u> | <u>MWIR IDC¹</u> | <u>TRUCON^{2,3}</u> | <u>NMVP^{2,3}</u> | <u>PART B²</u> |
|-------------------|-----------------------------|-----------------------------|---------------------------|----------------------------|
| IN-W325 | 815 | II | II | II |
| IN-W327 | 847 | II | II | II |
| IN-W329 | 848 | II | II | II |
| IN-W330 | 801 | II | II | II |
| IN-W332 | 204 | II | II | II |
| IN-W334 | 203 | II | II | II |
| IN-W336 | 202 | II | II | Combustibles (Unspecified) |
| IN-W337 | 200 | II | II | II |
| IN-W338 | 163 | II | II | II |
| IN-W339 | 162 | II | II | II |
| IN-W341 | 160 | II | II | II |
| IN-W342 | 157 | II | II | II |
| IN-W345 | 155 | II | II | II |
| IN-W347 | 102 | II | II | II |
| IN-W349 | 107 | II | II | II |
| IN-W350 | 106 | II | II | II |
| IN-W351 | 105 | II | II | II |
| IN-W354 | 412 | ID224 | ID224 | Not Applicable |
| IN-W355 | 411 | ID124 | ID124 | Not Applicable |
| IN-W356 | 410 | ID224 | ID224 | Not Applicable |
| IN-W357 | 425 | II | II | Not Applicable |
| IN-W359 | 015 | II | II | Not Applicable |
| IN-W360 | 012 | II | II | Not Applicable |
| IN-W361 | 422 | II | II | Not Applicable |
| IN-W362 | 421 | II | II | Not Applicable |
| IN-W363 | 420 | II | II | Not Applicable |
| IN-W364 | 392 | II | II | Not Applicable |
| IN-W365 | 391 | II | II | Not Applicable |
| IN-W366 | 370 | ID222 | ID222 | Not Applicable |

¹ NR = Not Reported

² II = Insufficient Information was provided by the site to determine the code.

³ TRUCON and NMVP Codes cannot be assigned unless the site provides a corresponding waste IDC or TRUCON number in MWIR.

⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MWIR by the storage/generating site.

| <u>WS UNIQID</u> | <u>MWIR IDC¹</u> | <u>TRUCON^{2,3}</u> | <u>NMVP^{2,3}</u> | <u>PART B²</u> |
|------------------|-----------------------------|-----------------------------|---------------------------|---------------------------|
| IN-W367 | 311 | II | II | Not Applicable |
| IN-W368 | 310 | II | II | Not Applicable |
| IN-W369 | 303 | II | II | Not Applicable |
| IN-W370 | 115 | II | II | Not Applicable |
| IN-W371 | 416 | ID117 | ID117 | Not Applicable |
| IN-W372 | 081 | II | II | Not Applicable |
| IN-W373 | 361 | II | II | Not Applicable |
| IN-W374 | 960 | II | ID NYD | Not Applicable |
| KA-W016 | OR-125A | II | II | II |
| LA-W034 | NR | II | II | II |
| LA-W035 | NR | II | II | II |
| LA-W036 | NR | II | II | II |
| LA-W037 | NR | II | II | II |
| LA-W038 | NR | II | II | II |
| LA-W039 | NR | II | II | II |
| LA-W040 | NR | II | II | II |
| LA-W041 | NR | II | II | II |
| LA-W042 | NR | II | II | II |
| LA-W043 | NR | II | II | II |
| LA-W044 | NR | II | II | II |
| LA-W045 | NR | II | II | II |
| LL-W018 | NR | II | II | II |
| LL-W019 | NR | II | II | II |
| LL-W020 | NR | II | II | II |
| MD-W002 | MD-833 | II | II | II |

¹ NR = Not Reported

² II = Insufficient Information was provided by the site to determine the code.

³ TRUCON and NMVP Codes cannot be assigned unless the site provides a corresponding waste IDC or TRUCON number in MWIR.

⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MWIR by the storage/generating site.

| <u>WS UNIQUID</u> | <u>MWIR IDC</u> ¹ | <u>TRUCON</u> ^{2,3} | <u>NMVP</u> ^{2,3} | <u>PART B</u> ² |
|-------------------|------------------------------|------------------------------|----------------------------|---|
| MD-W003 | MD-835 | II | II | II |
| MU-W002 | OR-125A | II | II | II |
| NT-W001 | LL-002 | NT111 NT211 | NT111 NT211 | NR |
| OR-W040 | 2039 | OR125 ³ | OR125 ³ | NR |
| OR-W042 | 2041 | II | II | II |
| OR-W044 | 2043 | OR125 ³ | OR125 ³ | II |
| OR-W045 | 2044 | OR125 ³ | OR125 ³ | II |
| OR-W046 | 2045 | II | II | II |
| OR-W047 | 2046 | OR125 ³ | OR125 ³ | II |
| PA-W014 | 14 | II | II | II |
| PA-W015 | 15 | II | II | II |
| RF-W008 | RF-374 | RF121 | RF121 | Benelex and Plexiglas |
| RF-W010 | RF-800 | RF111 | RF111 | Inorganic Waste Water Treatment Sludge |
| RF-W011 | RF-480 | RF117 | RF117 | Metal |
| RF-W012 | RF-831 | RF116 | RF116 | Combustibles |
| RF-W013 | RF-801 | RF112 | RF112 | Organic Liquid/Sludge |
| RF-W026 | RF-375 | RF122 | RF122 | Firebrick and Ceramic Crucibles |
| RF-W028 | RF-321 | RF117 | RF117 | Metal |
| RF-W029 | RF-339 | RF123 | RF123 | Leaded Rubber |
| RF-W032 | RF-444 | RF118 | RF118 | Glass |
| RF-W036 | RF-377 | RF122 | RF122 | Firebrick and Ceramic Crucibles |

¹ NR = Not Reported

² II = Insufficient Information was provided by the site to determine the code.

³ TRUCON and NMVP Codes cannot be assigned unless the site provides a corresponding waste IDC or TRUCON number in MWIR.

⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MWIR by the storage/generating site.

| <u>WS UNIQID</u> | <u>MWIR IDC¹</u> | <u>TRUCON^{2,3}</u> | <u>NMVP^{2,3}</u> | <u>PART B²</u> |
|------------------|-----------------------------|-----------------------------|---------------------------|---|
| RF-W037 | RF-320 | RF117 | RF117 | Metal |
| RF-W038 | RF-802 | RF113 | RF113 | Solidified Liquid |
| RF-W040 | NR | II | II | II |
| RF-W041 | RF-341 | II | II | Leaded Rubber (Unspecified) |
| RF-W052 | RF-440 | RF118 | RF118 | Glass |
| RF-W056 | RF-370 | RF118 | RF118 | Glass |
| RF-W057 | RF-438 | RF122 | RF122 | Firebrick and Ceramic Crucibles |
| RF-W058 | RF-411 | RF124 | RF124 | Pyrochemical Salt |
| RF-W059 | NR | II | II | II |
| RF-W060 | RF-303 | RF115 | RF115 | Graphite |
| RF-W063 | NR | II | II | II |
| RF-W065 | RF-333 | II | II | II |
| RF-W066 | RF-490 | RF119 | RF119 | Filters |
| RF-W067 | RF-376 | RF119 | RF119 | Filters |
| RF-W068 | NR | II | II | II |
| RF-W069 | NR | II | II | II |
| RF-W076 | NR | II | II | II |
| RL-W071 | TRUM-01 | II | II | II MWIR IDCs cannot be related to TRUCON or NMVP IDCs |
| RL-W072 | TRUM-02 | II | II | II |
| RL-W074 | TRUM-04 | II | II | II |
| RL-W075 | TRUM-05 | II | II | II |
| RL-W077 | TRUM-07 | II | II | II |
| RL-W078 | TRUM-08 | II | II | II |
| RL-W079 | TRUM-09 | II | II | II |
| RL-W080 | TRUM-10 | II | II | II |
| RL-W081 | TRUM-11 | II | II | II |
| RL-W082 | TRUM-12 | II | II | II |

¹ NR = Not Reported

² II = Insufficient Information was provided by the site to determine the code.

³ TRUCON and NMVP Codes cannot be assigned unless the site provides a corresponding waste IDC or TRUCON number in MWIR.

⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MWIR by the storage/generating site.

| <u>WS UNIQUID</u> | <u>MWIR IDC¹</u> | <u>TRUCON^{2,3}</u> | <u>NMVP^{2,3}</u> | <u>PART B²</u> | |
|-------------------|-----------------------------|-----------------------------|---------------------------|---------------------------|---|
| RL-W083 | TRUM-13 | II | II | II | |
| RL-W085 | TRUM-15 | II | II | II | |
| RL-W086 | TRUM-16 | II | II | II | |
| RL-W101 | TRUM-17 | II | II | II | |
| RL-W133 | TRUM-21 | II | II | II | |
| RL-W134 | TRUM-22 | II | II | II | |
| RL-W135 | RH-001 | II | II | II | |
| SA-W134 | NR | II | II | II | |
| SR-W026 | O49/050 | II | II | II | MWIR IDCs cannot be related to TRUCON or NMVP IDCs |
| SR-W027 | O49/050 | II | II | II | |
| SR-W044 | 096 | II | II | II | |
| SR-W053 | NR | II | II | II | |
| WV-W024 | 2404 | II | II | II | |
| WV-W041 | NR | II | II | II | |

¹ NR = Not Reported

² II = Insufficient Information was provided by the site to determine the code.

³ TRUCON and NMVP Codes cannot be assigned unless the site provides a corresponding waste IDC or TRUCON number in MWIR.

⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MWIR by the storage/generating site.

APPENDIX L

APPENDIX L WTWBIR DATABASE DESCRIPTION

A database was set up to support the WTWBIR. This database is referred to as the WTWBIR database and is used to roll up the waste data in the WTWBIR. The database is operated in the Microsoft Access Version 2.0 system.

The primary sources for the data used in the WTWBIR database are the Phase II MWIR and the NID. Both of these sources are described or defined in Section 1.3.4 of the WTWBIR. The data dictionary for the WTWBIR is listed in Table L-2 of this appendix. The table is organized in groups based on the source of the data.

L.1 MIXED WASTE INVENTORY REPORT DATA

Each record in the database represents one waste stream as defined by a unique waste stream (UNIQUE_WS) that directly corresponds to the same field in the MWIR database. Only the mixed TRU waste records were imported. The data from some MWIR fields were not imported directly, but were used to produce new fields in the WTWBIR database. The MWIR-projected volume fields were added to produce one field in the WTWBIR database for a total projected volume. The total stored volume (TOTVOL) was imported directly from the similarly named field in the MWIR. The PCB-related fields in the MWIR were used to define a negative or positive entry for a new field, called PCBQ, which was used to determine whether a stream was regulated for PCBs. This field is similar to the ASBESTOSQ field imported from the MWIR used to determine whether a stream was regulated for asbestos. The data in other fields were imported directly without change.

The reports and tables produced for the WTWBIR are produced from different data sorts based on the MWIR fields and some modified MWIR fields added based on expert judgment. The data are sorted into waste stream profiles based on WMCs, WMCGs by site, CH or RH requirements, and the total WIPP inventory. Waste streams are defined by the unique waste stream identification number in the field UNIQUE_WS. The sites are defined in the field WS_SITE. The WMC was assigned to each stream in the MWIR in the field WS_MATCODE. This parameter is described in the MWIR form instructions as a "treatability group" and definitions are provided for each treatability group number based on waste forms and potential treatment options (see WTWBIR Appendix C). The WS_MATCODE represents a general description of the waste form and contents. The field ASSIGN_MTCDD10 was added by the WTWBIR team to identify the WMC used for sorting data for the tables and reports in the WTWBIR.

The field MATRIX_NAME was also added to describe groups of WMCs. In the WTWBIR the WMCs are sorted into a final set of 11 WMCGs. These WMCGs are based on similar physical and chemical properties. The names for the final WMCGs and the associated WMCs are shown in Table 1-2 in Chapter 1 of the WTWBIR. The names from Table 1-2 appear in the MATRIX_NAME field for each waste stream record. This field was used to sort for those tables and reports based on the 11 WMCGs assigned by the WTWBIR team.

A field called SCALED_VOL has been added for the total volume of each waste stream that will be disposed in the WIPP. This is a calculated field used only for the CH-TRU waste streams and is the amount of waste necessary to fill WIPP to its capacity. Additional waste volume was calculated for each waste stream proportionate to the sum of stored and projected volumes for each stream such that the sum of the scaled volumes for CH-TRU

waste equaled 180,000 m³. Enough waste is already identified to fill the WIPP to the regulatory capacity for RH-TRU waste.

Additional waste stream records were added to the database for non-mixed TRU waste at each site. The Phase II MWIR report includes only the mixed waste streams at each TRU waste generator/storage site. The INEL non-mixed TRU waste streams were included in the Phase I MWIR report but not in the Phase II report. Therefore, for INEL, the non-mixed TRU waste streams are imported from the Phase I MWIR. For other sites, non-mixed TRU waste streams were estimated based on expert judgement and the IDB for 1993. The IDB includes total volumes for all TRU waste for each waste storage/generator site. The amount of non-mixed TRU waste was estimated by subtracting the volumes for each site (except INEL) reported in the MWIR from the total TRU waste volumes reported in the IDB. These volumes for each site were then assigned to several different waste streams related to specific WMCs. The WMCs, volumes, IDCs, etc. were assigned based on expert judgement, previous site data, and informal contacts with knowledgeable site personnel. These waste streams can be identified by the UNIQUE_WS number. For mixed TRU waste streams from the MWIR, the number is of the form RF-W110 whereas for WTWBIR added streams the number is of the form RF-T110. This numbering system does not apply to the INEL non-mixed TRU waste streams because the numbering used in the phase I MWIR was retained.

L.2 NONRADIONUCLIDE INVENTORY DATABASE

The NID information was not imported directly, but was processed to produce the parameter information required for each record. The fields derived from the NID are identified in Table L-1 of this report. The NID information was rolled up into the parameters as identified by these fields. For example, weights of metals such as brass, copper, tantalum, and materials simply described as "metals" were rolled up under the field INOTMxxx (where xxx is minimum, maximum, or average) which stands for "inorganic other metals." Note that because some materials are described only as metals, aluminum and iron can be in the INOTMxxx field as well as in the INFExxx or INALxxx fields.

It is assumed for the purposes of this version of the WTWBIR (Revision 0) that all CH-TRU waste is packaged in standard 55-gallon steel drums with plastic liners and RH-TRU waste is packaged in the RH shipping containers. Because this is the case for every container and stream, it also is assumed unnecessary for this data to be explicitly entered in the database. The amount of steel in the drums is reported separately in the waste stream profiles.

Two categories of sludges and solidified materials are represented by fields. These are solidified inorganic solids (SINxxx) and solidified organic solids (SORxxx). The particular category into which a sludge or solidified material is placed is determined by the overall matrix of the resulting material after any solidification or stabilization efforts. For example, a small amount of organic liquids/sludges solidified in cement would be placed in the "inorganic solids" category and a drum of organic-based resin beads would be placed in the "organic solids" category.

The rest of the fields are reasonably self explanatory, but additional discussion on ORGCxxx, ORGRxxx, and ORGPxxx, may be helpful. The field ORGCxxx includes all cellulose-based materials and will typically include paper, cloth, wood, kimwipes and other materials derived from plant based materials. It is assumed that cloth is plant-derived material such as cotton and not plastic-based material such as rayon or nylon. The data does not describe the type of cloth. ORGRxxx consists of rubber-based materials. Included in this category are hypalon,

neoprene, and surgeons gloves. ORGPxxx represents plastics such as Lucite, polyethylene, Tyvek, Teflon and polyvinyl chloride. Plastic bags are used extensively in packaging the waste and would be included in this category. The plastic drum liners are not included in this category and are listed separately.

Each record derived from the NID is associated with an IDC number by the site as an identification code for a particular waste stream or type of waste. Expert judgement was used to assign an appropriate IDC to each MWIR waste stream (see Appendix J of the WTWBIR). The IDC then represented the relationship between an MWIR waste stream and the NID-derived material parameter data. The NID information provided weights for materials in an average drum and sometimes provided minimum and maximum weights for the materials. These data were used to calculate densities of particular materials for each IDC. These weights for each material parameter represent the waste profile for each IDC and, hence, for each MWIR waste stream.

Waste material parameters from the NID were rolled up into more general categories. The best way to describe this is with a hypothetical example in Table L-1.

TABLE L-1. NID INFORMATION

| Waste Material Parameter | Minimum (wt%) | Average (wt%) | Maximum (wt%) |
|--------------------------------|---------------|---------------|---------------|
| Paper | 10 | 30 | 80 |
| Kimwipes | 5 | 15 | 40 |
| Cloth | 0 | 5 | 10 |
| Cellulosics | | | |
| Drum Weights (kg) (waste only) | 50 | 95 | 150 |

The average weight percent does not add to 100 percent because other parameters, such as metals, make up the rest of an average drum. As shown in the fourth line of Table L-1, the data would roll up into the WTWBIR database as cellulosic materials. The result in the WTWBIR would be as follows:

Weight per drum (Kg)

| Parameter | Min | Avg | Max |
|-----------|-----|------|-----|
| Cellulose | 7.5 | 47.5 | 150 |

The minimum is the sum of the minimum weight percents in the NID, multiplied by the minimum weight of waste (i.e., 15 percent x 50 kg = 7.5 kg) in the drum. The average is the sum of the average weight percents multiplied by the average weight of waste (i.e., 50 percent x 95 kg = 42.5 kg) in the drum. The maximum is the sum of the maximum weight percentages multiplied by the maximum weight of waste (i.e., 100 percent x 150 kg = 150 kg) in the drum. In this case the maximum weight percentages add to more than 100 percent, which is physically impossible; therefore, 100 percent is used for the maximum weight percentage. When tables and reports are computed for the WTWBIR, the weights per drum are converted to weight per cubic meter based on 0.208 cubic meters per 55-gallon drum.

The rollups of these material parameters by WMCGs or by site use the volumes from the MWIR information in the WTWBIR database. The rollups by WMCGs or by site require combining data for several MWIR waste streams. The averages for the material parameters are calculated from the NID-derived average densities modified by the MWIR volume fractions and summed as follows:

$$\text{Average Density of rollup group} = \text{Average Density,} \quad \times \quad \frac{(\text{Volume MWIR Stream}_i)}{(\text{Total Volume of Group})} \quad + \quad \bullet \quad \bullet \quad \bullet$$

The minimum density is chosen as the smallest minimum density of a particular waste material parameter in the MWIR waste streams in a particular site-specific rollup. The maximum density is chosen in a similar manner, except that the largest maximum density was chosen.

In many cases, the NID does not have data for minimum and maximum percentages, even though average percentages are provided. In these cases, for rollup purposes only, the minimum is assumed to be zero and the maximum is assumed to be equal to the average. This ensures that the calculated and rolled up maximum densities are greater than the average densities. However, the maximum density may not be a true maximum but the maximum average density.

L.3 TABLES AND REPORTS FOR THE WTWBIR

The tables and reports for the WTWBIR were produced using the facilities provided by the Microsoft Access Version 2.0 database system. These tables and reports consist primarily of various sorts based on waste streams, WMCs, sites, etc. and summations of volumes and material parameter weights. Queries and report specifications were set up as defined within the Access system and quality controlled in compliance with the Quality Assurance Plan CTS_WTAC_0001.

L.4 WTWBIR TEAM

The data entry, manipulations, and reporting was conducted in conformance to a Quality Assurance Plan (CTS-WTAC-0001). The basic concept of the plan was to:

- Maintain record copies of the database at different points in the development.
- Maintain a paper trail of additions and changes to the database.
- Document and verify the correct use of the database to produce the reports and tables used in the WTWBIR.

This was accomplished by documenting and verifying the changes, additions, corrections, and report and table generation through the use of formal change forms signed and dated by the implementor and checker. The implementor is the individual who initially makes the changes or develops the report or table and the checker is a another individual who checks and verifies that the initial work was correct. If the initial implementation was not correct, the checker confers with the implementor, changes are agreed upon, and the checker and implementor both check that the changes are properly implemented.

The change form is also used by anyone on the WTWBIR team to request a change or addition to the database. In this case, the form also includes the requestors name and the date requested. The requestor can also be the checker or implementor but not both.

The database manager is responsible for maintaining the record copies of the database, tracking and ensuring proper use of change forms and ensuring that the technical lead for the WTWBIR team is cognizant of changes being made to the data.

L.5 NONRADIONUCLIDE DATABASE

The data in the NID was provided by IT. A quality control check of the data was conducted by IT using internal quality assurance plans. The WTWBIR team's quality assurance plan accepted the data as received from IT and ensured that the data was correctly manipulated and imported into the WTWBIR database.

L.6 MIXED WASTE INVENTORY REPORT

This is a published database used extensively to develop the WTWBIR database. The WTWBIR quality assurance plan accepted the data as published and ensured that the data was correctly manipulated and imported into the WTWBIR database.

TABLE L-2. WTWBIR DATA DICTIONARY

| | |
|----------------------|--|
| UNIQUE_WS | Waste stream identification number from Phase II MWIR |
| WASTESTREA | Short for "Waste Stream Description": descriptive information attached to the waste stream record by the interim storage site. From Phase II MWIR |
| WASTETYPE | For the purposes of the WTWBIR, a binary choice between mixed TRU waste and TRU waste. |
| WS_ID_IMWR | Waste stream identification in the Interim Mixed Waste Inventory Report, if applicable and reported |
| WS_ID_SITE | Waste stream identification assigned locally at the interim storage site |
| Field_Office | Abbreviation of DOE field office responsible for interim storage site |
| Generator | Abbreviation of the site where the waste was generated |
| ID Code | Site-specific IDCs assigned to the specified stream by the interim storage site |
| IDC1 | IDC, first reported by site, if applicable |
| WS-SITE | Interim storage site abbreviation |
| WS_TRUCON | First TRUCON assigned by site, if applicable |
| WS_TRUCON1 | Second TRUCON assigned by site, if applicable |
| WS_MATCODE | Waste stream treatability group number assigned by the site for the Phase II MWIR |
| WS_MATNAME | Name associated with the treatability group number assigned by the site for the Phase II MWIR |
| Assign_MTCD10 | Treatability group number assigned by WTWBIR team on the basis of professional judgement and review of reported and available data |
| MATRIX_NAME | The name assigned by the WTWBIR team to group waste streams by common waste parameters. Used to roll up waste streams for the WTWBIR (See Table 1-2) |
| ASBESTOSQ | Binary response as to whether or not the waste stream is regulated for asbestos (YES or NO) |

TABLE L-2. WTWBIR DATA DICTIONARY

| | |
|---------------|--|
| PCBQ | Binary response as to whether or not the waste stream is regulated for PCBs |
| Cunit | Units of volume used to specify CVolume, normally g for gallons |
| CVolume | Internal volume of the container specified. Normally 55-gal. drums for Rev. 0 |
| Stored_Volume | Total volume in m ³ stored at the specified site at end of 1992; extracted from the Phase II MWIR, including WTWBIR adjustments |
| PROJ_SUM | Projected additional amount generated in the future that will go to the WIPP; extracted from the Phase II MWIR, including WTWBIR adjustments |
| Scaled | The additional volume needed to fill the WIPP with CH-TRU waste to 180,000m ³ |
| INALavg | Aluminum-based materials, density in kg/m ³ for a specific waste stream |
| INALmax | Aluminum-based materials, maximum reported density in kg/m ³ for a specific waste stream |
| INALmin | Aluminum-based materials, minimum reported density in kg/m ³ for a specific waste stream |
| INFEavg | Iron-based materials, volume-weighted average, for a specific waste stream |
| INFEmax | Iron-based materials, maximum reported, for a specific waste stream |
| INFEmin | Iron-based materials, minimum reported, for a specific waste stream |
| INOTMavg | Other inorganic metals, volume-weighted average, for a specific waste stream |
| INOTMmax | Other inorganic metals, maximum reported, for a specific waste stream |
| INOTMmin | Other inorganic metals, minimum reported, for a specific waste stream |
| INOTOavg | Other inorganic materials, other materials, volume-weighted average, for a specific waste stream |
| INOTOmax | Other inorganic materials, other materials, maximum reported, for a specific waste stream |
| INOTOmin | Other inorganic materials, other materials, minimum reported, for a specific waste stream |

TABLE L-2. WTWBIR DATA DICTIONARY

| | |
|----------|--|
| ORGCavg | Organic materials, cellulose, volume-weighted average, for a specific waste stream |
| ORGCmax | Organic materials, cellulose, maximum reported, for a specific waste stream |
| ORGCmin | Organic materials, cellulose, minimum reported, for a specific waste stream |
| ORGOTavg | Organic materials, other, volume-weighted average, for a specific waste stream |
| ORGOTmax | Organic materials, other, maximum reported, for a specific waste stream |
| ORGOTmin | Organic materials, other, minimum reported, for a specific waste stream |
| ORGPavg | Organic materials, plastic, volume-weighted average, for a specific waste stream |
| ORGPmax | Organic materials, plastic, maximum reported, for a specific waste stream |
| ORGPmin | Organic materials, plastic, minimum reported, for a specific waste stream |
| ORGRavg | Organic materials, rubber, volume-weighted average, for a specific waste stream |
| ORGRmax | Organic materials, rubber, maximum reported, for a specific waste stream |
| ORGRmin | Organic materials, rubber, minimum reported, for a specific waste stream |
| SINavg | Solidified materials, inorganic matrix, volume-weighted average, for a specific waste stream |
| SINmax | Solidified materials, inorganic matrix, maximum reported, for a specific waste stream |
| SINmin | Solidified materials, inorganic matrix, minimum reported, for a specific waste stream |
| SLavg | Soils, volume-weighted average, for a specific waste stream |
| SLmax | Soils, maximum reported, for a specific waste stream |
| SLmin | Soils, minimum reported, for a specific waste stream |
| SORavg | Solidified materials, organic matrix, volume-weighted average, for a specific waste stream |

TABLE L-2. WTWBIR DATA DICTIONARY

| | |
|--------|---|
| SORmax | Solidified materials, organic matrix, maximum reported, for a specific waste stream |
| SORmin | Solidified materials, organic matrix, minimum reported, for a specific waste stream |

APPENDIX M

APPENDIX M
MWIR CODE DESIGNATIONS AND DESCRIPTIONS

| Code | Description | Code | Description |
|-------|---|-----------|---|
| D001A | High TOC Ignitable Liquids | F001-F005 | Pharmaceutical Industry Wastewaters |
| D001B | Descr. Based on 40 CFR 261.21, High TOC Subcat., Managed CWA | F005A | Spent Nonhalogenated Solvents |
| D001C | Descr. Based on 40 CFR 261.21, High TOC Subcat., Non-CWA | F005B | Listed for 2-Nitropropane |
| D002A | Acid, Alkaline, & Other Subcat Based on 40 CFR 261.22 CWA | F005C | Listed for 2-Ethoxyethanol |
| D002B | Acid, Alkaline, & Other Subcat Based on 40 CFR 261.22 Non-CWA | F025A | Light Ends |
| D002C | High Level Wastes | F025B | Spent Filters/Aids and Desiccants |
| D003A | Reactive Cyanides | K006A | Anhydrous |
| D003B | Reactive Sulfides | K006B | Hydrated |
| D003C | Explosives | K061A | High Zinc |
| D003D | Water Reactives | K061B | Low Zinc |
| D003E | Other Reactives | K069A | Calcium Sulfate |
| D004A | TCLP Toxic for Arsenic | K069B | Non Calcium Sulfate |
| D004B | High Level Wastes | K071A | Low Mercury |
| D005A | TCLP Toxic for Barium | K071B | High Mercury |
| D005B | High Level Wastes | K106A | Low Mercury |
| D006A | TCLP Toxic for Cadmium | K106B | High Mercury |
| D006B | Cadmium-containing Batteries | K106C | High Mercury Residues from RMERC |
| D006C | High Level Wastes | K106D | Low Mercury Residues from RMERC |
| D007A | TCLP Toxic for Chromium | K106E | Low Mercury Residues |
| D007B | High Level Wastes | K106F | Wastewaters |
| D008A | TCLP Toxic for Lead | P065A | High Mercury Incinerator or RMERC Residues Containing Mercury |

**APPENDIX M
MWIR CODE DESIGNATIONS AND DESCRIPTIONS**

| | | | |
|-------|--|-------|--|
| D008B | Lead Acid Batteries | P065B | Residues That Are Not Incinerator or RMERC Residues |
| D008C | Radioactive Lead Solids | P065C | Low Mercury RMERC Residues Containing Mercury Fulminate |
| D008D | High Level Wastes | P065D | Incinerator Residues Containing Mercury Fulminate |
| D009A | TCLP Toxic for Mercury | P065E | Wastewaters |
| D009B | High Mercury (Contains Organics) | P092A | High Mercury Incinerator or RMERC Residues Containing Phenyl Mercury Acetate |
| D009C | High Mercury (Contains Inorganics) | P092B | Residues That Are Not Incinerator or RMERC Residues |
| D009D | Elemental Mercury Contaminated with Radioactive Materials | P092C | Low Mercury RMERC Residues Containing Phenyl Mercury Acetate |
| D009E | Hydraulic Oil Contaminated with Mercury Radioactive Material | P092D | Incinerator Residues Containing Phenyl Mercury Acetate |
| D009F | High Level Wastes | P092E | Wastewaters |
| D010A | TCLP Toxic for Selenium | U151A | High Mercury Residues from RMERC |
| D010B | High Level Wastes | U151B | Low Mercury Residues from RMERC |
| D011A | TCLP Toxic for Silver | U151C | Low Mercury Residues |
| D011B | High Level Wastes | U151D | Radioactive Elemental Mercury |

**Exhibits for Submission to NMED
With WIPP's Comments to
the November 26, 2003 Agency-
Initiated Permit Modification**

Volume 2 of 4

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| Volume 1 of 4 | 1. | 9/10/99 | Report of the Hearing Officer In the Matter of the Final Permit Issued to the U.S. Department of Energy and Westinghouse Electric Company Waste Isolation Division for a Hazardous Waste Act Permit for the Waste Isolation Pilot Plant, USEPA No. NM4890139088 |
| | 2. | June 1994 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 0, Book 1 of 2, CAO-94-1005 |
| | 3. | June 1994 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 0, Book 2 of 2, CAO-94-1005 |
| | 4. | Feb. 1995 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 1, Volume 1, CAO-94-1005 |
| Volume 2 of 4 | 5. | Feb. 1995 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 1, Volume 2, CAO-94-1005 |
| Volume 3 of 4 | 6. | Feb. 1995 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 1, Volume 3, CAO-94-1005 |
| | 7. | June 1996 | Transuranic Waste Baseline Inventory Report, Revision 3, DOE/CAO-95-1121 |
| | 8. | 11/2/95 | Letter from B. Hoditschek of NMED to G. Dials of WIPP transmitting NMED comments on Revision 5 of the WIPP Part B RCRA Permit Application (Chapters A, B, and C), and requesting additional information |
| | 9. | 12/20/95 | Letter from M. McFadden of WIPP to B. Garcia of NMED providing responses to NMED's 11/2/95 comments on Revision 5 of the WIPP Part B RCRA Permit Application |
| | 10. | 3/14/96 | Letter from B. Garcia of NMED to G. Dials and J. Epstein of WIPP transmitting a Notice of Deficiency (NOD) regarding Revision 5.2 of WIPP's Part B RCRA Permit Application |
| | 11. | 4/12/96 | WIPP's responses to NMED's 3/14/96 NOD, hand delivered to B. Garcia of NMED on 4/12/96 |
| | 12. | 3/19/99 | Verbal hearing testimony of NMED's technical expert Constance Marie Walker during WIPP's 1999 RCRA Permit hearing, transcript pages 2717 - 2719 |
| | 13. | 6/25/99 | Summary of May 15, 1998 Draft Permit Public Comments and Responses to Comments by NMED, Module II.C, NMED response to Comment N-46, as reviewed by "CMW" |
| | 14. | 3/23/99 | NMED's Direct Testimony Regarding Regulatory Process and Imposed Conditions |
| | 15. | Jan. 2004 | NMED Green Gazette Newsletter, Volume I, Issue 1, Winter 2004 |
| | 16. | 1/9/04 | Request for Class 3 Permit Modification to the Hazardous Waste Facility Permit, Permit Number NM4890139088-TSDF, Implementing Section 311 of Public Law 108-137, transmittal letter from I. Triay and S. Warren of WIPP to S. Zappe of NMED |
| | 17. | 6/27/02 | WIPP Class 2 Permit Modification Request, Waste Characterization Updates and Other Process Improvements, Add U134 as a New Hazardous Waste Number, transmittal letter from I. Triay and J. Lee of WIPP to S. Zappe of NMED |
| | 18. | 11/25/02 | Letter from G. Lewis of NMED to I. Triay of WIPP approving 6/27/02 Class 2 PMR to add U134 as a new hazardous waste number |
| | 19. | Dec. 2001 | Rinchem Company, Inc., Albuquerque, NM - Final RCRA Operating Permit |
| | 20. | 12/2/97 | Rinchem Company, Inc., Albuquerque, NM - NMED request for supplementary information regarding Rinchem's Waste Analysis Plan in the Permit Application |
| | 21. | 4/24/96 | Rinchem Company, Inc., Albuquerque, NM - NMED Notice of Deficiency regarding February 1995 Permit Application |
| | 22. | 2/7/95 | Rinchem Company, Inc., Albuquerque, NM - RCRA Permit Application |
| | 23. | Sept. 2003 | Safety-Kleen, Albuquerque, NM - Final RCRA Operating Permit |

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| | 26. | 1/27/01 | Safety-Kleen, Albuquerque, NM - RCRA Permit Application |
| | 27. | Sept. 2003 | Safety-Kleen, Farmington, NM - Final RCRA Operating Permit |
| | 28. | 11/15/02 | Safety-Kleen, Farmington, NM - NMED NOD regarding the 10/4/00 Permit Application |
| | 29. | 3/9/03 | Safety-Kleen, Farmington, NM - response to NMED's 11/15/02 NOD |
| | 30. | 10/4/00 | Safety-Kleen, Farmington, NM - RCRA Permit Application |
| | 31. | Mach 2002 | Gandy Marley, Inc. Triassic Park Waste Disposal Facility, Chavez County, NM, RCRA Operating Permit |
| | 32. | 6/11/99 | Fax from P. Corser of Montgomery Watson to G. Starkebaum of TechLaw, re: Preliminary Draft of Gandy Marley, Inc. Response to Request for Supplemental Information - May 1999 |
| | 33. | 6/10/99 | Letter from J. Bearzi of NMED to L. Gandy of Triassic Park, re: Draft Responses to Request for Supplemental Information |
| | 34. | 5/5/00 | Letter from S. Kruse of NMED to R. Davis of State Fire Marshal's Office, re: Proposed Hazardous Waste Landfill |
| | 35. | March 1988 | "Hazardous Waste Storage and Disposal in Geologic Repositories - Permit Guidance Under the Resource Conservation and Recovery Act, OSWER Directive 9523.00-1", U.S. EPA |
| | 36. | 10/17/01 | Verbal hearing testimony of NMED's technical expert Constance Marie Walker during Triassic Park's RCRA Permit hearing, transcript pages 857-859 |
| | 37. | 10/19/01 | Hearing Officer's Report, In the Matter of the Draft Final Permit for the Triassic Disposal Facility U.S. EPA No. NM0001022484, pages 97 - 98 |
| | 38. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Table of Contents and Cross-Reference Table |
| | 39. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Chapter A (incl. Part A Permit Application Form Revision 7) |
| | 40. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Chapter B |

**Waste Isolation Pilot Plant Transuranic
Waste Baseline Inventory Report**



February 1995

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ACRONYMS AND ABBREVIATIONS

| | |
|----------------|--|
| AE | ANL-E site identifier |
| AL | Ames Laboratory site identifier |
| ANL-E | Argonne National Laboratory-East |
| AW | ANL-W site identifier |
| ANL-W | Argonne National Laboratory-West |
| BC | Battelle Columbus Laboratory site identifier |
| BT | Bettis Atomic Power Laboratory site identifier |
| CFR | Code of Federal Regulations |
| CH | contact handled |
| CY | calendar year |
| D&D | decontamination and decommissioning |
| DOE | U.S. Department of Energy |
| EPA | U.S. Environmental Protection Agency |
| ER | environmental restoration |
| ET | ETEC site identifier |
| ETEC | Energy Technology Engineering Center |
| FFCAct | Federal Facility Compliance Act |
| FGE | Fissile Gram Equivalent |
| HDPE | high-density polyethylene |
| HQ | (DOE) Headquarters |
| ID | identification |
| IDB | Integrated Data Base |
| IDC | item description code |
| IN | INEL site identifier |
| INEL | Idaho National Engineering Laboratory |
| IT | ITRI site identifier |
| ITRI | Inhalation Toxicology Research Institute |
| KA | KAPL site identifier |
| KAPL | Knolls Atomic Power Laboratory - Schenectady |
| kg | kilograms |
| LA | LANL site identifier |
| LANL | Los Alamos National Laboratory |
| LB | LBL site identifier |
| LBL | Lawrence Berkeley Laboratory |
| LL | LLNL site identifier |
| LLNL | Lawrence Livermore National Laboratory |
| MD | Mound Plant site identifier |
| m ³ | cubic meters |
| mrem | millirem |
| MU | University of Missouri site identifier |
| MTRU | mixed transuranic |
| MWIR | Mixed Waste Inventory Report |
| NMVP | No-Migration Variance Petition |
| NT | NTS site identifier |
| NTS | Nevada Test Site |
| OR | ORNL site identifier |

| | |
|------------|---|
| ORNL | Oak Ridge National Laboratory |
| PA | performance assessment (in text only) |
| PA | PGDP site identifier (in waste profiles only) |
| PCB | polychlorinated biphenyls |
| PGDP | Paducah Gaseous Diffusion Plant |
| PX | Pantex site identifier |
| RADAC | Radioactive Decay and Accumulation Code (System) |
| RCRA | Resource Conservation and Recovery Act |
| RF | RFETS site identifier |
| RFETS | Rocky Flats Environmental Technology Site |
| RH | remote handled |
| RL | Richland (Hanford) site identifier |
| SA | SNL/NM site identifier |
| SARP | Safety Analysis Report for Packaging |
| SNL/NM | Sandia National Laboratories/New Mexico |
| SPM | Systems Prioritization Methodology |
| SR | SRS identifier |
| SRS | Savannah River Site |
| SWB | Standard Waste Bay |
| TRU | transuranic |
| TRUCON | TRUPACT-II Content Codes |
| TRUPACT-II | Transuranic Package Transporter-II |
| TSCA | Toxic Substances Control Act |
| WAC | waste acceptance criteria |
| WIPP | Waste Isolation Pilot Plant |
| WMC | waste matrix code |
| WMCG | waste matrix code group |
| WS | waste stream |
| WTWBIR | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report |
| WTWBID | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Database |
| WV | WVDP site identifier |
| WVDP | West Valley Demonstration Project |

PREFACE

The information in this report summarizes the U.S. Department of Energy's (DOE) transuranic (TRU) waste inventory, projections, and characteristics. Revision 0 of the Waste Isolation Pilot Plant (WIPP) Transuranic Waste Baseline Inventory Report (WTWBIR) published in June 1994, was the first attempt ever made by the DOE complex to report all of its TRU waste at the waste stream level. The waste data reported in Revision 0 was considered preliminary until quality checks of the data were completed by the DOE TRU waste generator/storage sites. Data changes resulting from the site reviews are contained herein.

The primary differences between Revision 0 and Revision 1 of the WTWBIR are as follows:

- The WIPP baseline inventory reported in Revision 0 was compiled from three existing DOE databases, whereas, inventory data in Revision 1 was collected directly from the sites through a request made by the National TRU Program Office.
- The nonmixed, TRU waste streams reported in Revision 0 were derived from the volume differences between the Integrated Data Base (IDB) and Mixed Waste Inventory Report (MWIR), while the nonmixed TRU waste streams contained in Revision 1 are as reported by the TRU waste generator/storage sites.
- Revision 1 of the WTWBIR reports radionuclide data at the waste stream level. Where sites provided radionuclide data as the waste stream level, it is replicated in Appendix A. A WIPP radionuclide inventory is provided in Table 4-2. This table is derived from the data submitted to support the IDB. Revision 0 reported the radionuclide data at the WIPP level.
- Revision 1 reports the waste volumes in the final waste form that will be sent to WIPP. All previous databases, including Revision 0 of WTWBIR, report the waste in terms of volumes in storage before processing to meet WIPP requirements.
- The total radionuclide inventory for contact-handled (CH) TRU waste is much higher in Revision 1 than reported in Revision 0. This is due to two reasons: 1) Savannah River Site waste that was previously reported as "unknown" had not been included in the estimates, and 2) the "projected" part (1993-2022) of the CH-TRU radionuclide inventory was inadvertently left out of the totals reported in Revision 0, causing the inventory to be approximately 25% low. Revision 1 corrects the inventory reporting error.
- The total radionuclide inventory for remote-handled (RH) TRU waste is also much higher in Revision 1. During calculation of the RH-TRU inventory the volume defined by the sites included more waste than the repository is authorized to accept. During those calculations, the IDB radionuclide numbers only covered the "stored" part of the inventory. This made the RH-TRU inventory reported in Revision 0 to be low by a factor of approximately 3-4. Revision 1 corrects the inventory reporting error.
- Oak Ridge National Laboratory has reported a very conservative inventory for U-235 in its RH-TRU waste (≈ 367 curies). In order to provide a more realistic estimate of the U-235 inventory, an anticipated transportation requirement for the RH-TRU cask was imposed in Revision 1. This requirement modifies the U-235 estimate reported in Revision 0.

EXECUTIVE SUMMARY

The *Waste Isolation Pilot Plant (WIPP) Transuranic Waste Baseline Inventory Report (WTWBIR)* establishes a methodology for grouping wastes of similar physical and chemical properties, from across the U.S. Department of Energy (DOE) transuranic (TRU) waste system, into a series of "waste profiles" that can be used as the basis for waste form discussions with regulatory agencies. The majority of this document reports TRU waste inventories of DOE defense sites. An appendix is included which provides estimates of commercial TRU waste from the West Valley Demonstration Project.

The WIPP baseline inventory is estimated using waste streams identified by the DOE TRU waste generator/storage sites, supplemented by information from the Mixed Waste Inventory Report (MWIR) and the 1994 Integrated Data Base (IDB). The sites provided and/or authorized all information in the Waste Stream Profiles except the EPA (hazardous waste) codes for the mixed inventories. These codes were taken from the MWIR (if a WTWBIR mixed waste stream was not in MWIR, the sites were consulted). The IDB was used to generate the WIPP radionuclide inventory. Each waste stream is defined in a waste stream profile and has been assigned a waste matrix code (WMC) by the DOE TRU waste generator/storage site. Waste stream profiles with WMCs that have similar physical and chemical properties can be combined into a waste matrix code group (WMCG), which is then documented in a site-specific waste profile for each TRU waste generator/storage site that contains waste streams in that particular WMCG.

Based on methodology presented in this WTWBIR, a maximum of 11 site-specific waste profiles have been identified for contact-handled (CH) TRU waste and a maximum of 11 have been identified for remote-handled (RH) TRU waste for each site. Each of these site-specific waste profiles have unique WMCG criteria and they are developed, if appropriate, for each of the TRU waste generator/storage sites. A particular site-specific waste profile, with a specific WMCG, can be combined with other site-specific waste profiles having identical WMCGs from the TRU waste generator/storage sites to derive a WIPP waste profile.

The anticipated inventory of TRU waste is defined as the sum of retrievably stored waste (waste generated after 1970) plus currently projected TRU waste volumes. The anticipated inventory for CH-TRU waste is not sufficient to fill the maximum allowed capacity of WIPP (calculated: 6.2 million cubic feet [$\approx 176,000$ cubic meters]), and scaling has been developed as a means for Sandia National Laboratories' model to examine the impacts of the full repository. Scaling has also been applied to the RH-TRU inventory since sufficient volume has not been identified in the anticipated RH-TRU inventory to fill WIPP to the RH-TRU design capacity (≈ 7080 cubic meters). Additionally, there is a high uncertainty in and a current lack of data on wastes produced from decontamination and decommissioning (D&D) and environmental restoration (ER) activities. Therefore, the anticipated CH-TRU inventory has been "scaled" to the maximum allowed WIPP capacity and the RH-TRU to the design capacity. The scaling of the inventories in this and future revisions of the WTWBIR will be derived from the best available data and assumptions.

An example of five waste streams at two sites (Figure 3-2 in the main body of the report) has been used to illustrate the waste profile methodology. Total WIPP inventory volumes for the WIPP waste profiles are provided.

Using the same waste profile methodology, the WTWBIR also estimates the WIPP disposal inventory (anticipated inventory that has been scaled to WIPP design capacity) in terms of 10 waste material parameters and additional packaging materials that have been identified as inputs needed for the system prioritization methodology (SPM) and performance assessment (PA) calculations. The 10 waste material parameters and additional packaging materials are waste constituents that occur in TRU waste and are input parameters for one or more SPM and PA models or are required to adequately describe the waste form. These parameters may change as a result of SPM and PA efforts.

The 10 waste material parameters have been grouped by their chemical/physical properties and are indicated in bold lettering. The 10 waste material parameters and additional packaging materials that are defined and included in the WTWBIR are:

- Inorganics
 - **Iron-based metals/alloys**
 - **Aluminum-based metals/alloys**
 - **Other metals**
 - **Other inorganic materials**
- Organics
 - **Cellulosics**
 - **Rubber**
 - **Plastics**
- Solidified Materials
 - **Inorganic matrix**
 - **Organic matrix**
- Soils
- Packaging Materials
 - **Steel**
 - **Plastic**
 - **Lead**

The waste material parameter information is reported in kilograms per cubic meter of waste matrix (kg/m^3). The waste material parameters in the waste stream, site-specific, and WIPP waste profiles are expressed on a weight/volume basis. However, the occurrence of more than one waste material parameter at the maximum value within a waste stream is highly unlikely. If needed, during SPM and PA (Tables 5-1 and 5-2) calculations, the sampling statistics (if used) must be controlled so that several waste material parameters do not get sampled all at their maximum value (weight/volume), lest the average weight/volume is exceeded. To illustrate the waste profile methodology, five waste streams from two sites are used as examples. This revision of the WTWBIR provides a diskette that contains the WIPP TRU Waste Baseline Inventory Database in Microsoft Access®.

Although the initial purpose of this report is to provide data to be included in the Sandia National Laboratories/New Mexico SPM and PA processes, all data are presented and explained in such a way that they can be adapted as needed for other applications. The WTWBIR, Revision 1, is presented in three parts: Volume 1 contains this Executive Summary through Chapter 9 and the WTWBID diskette; Volume 2 contains Appendix A, Waste Stream Profiles; and Volume 3 Appendices B through J.

1. INTRODUCTION

1.1 BACKGROUND

The Waste Isolation Pilot Plant (WIPP) is a transuranic (TRU) waste management facility operated by the U.S. Department of Energy (DOE). The WIPP is currently identified as the permanent disposal site for DOE TRU waste.

TRU waste is defined as waste that is contaminated with alpha-emitting radionuclides with an atomic number greater than 92, with half-lives greater than 20 years, and concentrations of TRU isotopes greater than 100 nanocuries per gram of waste (DOE, 1988). TRU wastes are classified as either contact-handled (CH) waste or remote-handled (RH) waste, depending on the dose rate at the surface of the waste container. CH-TRU wastes are packaged TRU wastes with an external surface dose rate of 200 millirems (mrem) or less per hour, while RH-TRU wastes are packaged TRU wastes with an external surface dose rate exceeding 200 mrem per hour. Unless otherwise indicated, for purposes of this document, all references to TRU waste include TRU waste and mixed TRU waste (waste that contains both radioactive and hazardous components, as defined by the Atomic Energy Act and the Resource Conservation and Recovery Act [RCRA] as codified in Title 40 Code of Federal Regulations [CFR] Parts 264, 265, 268, and 270 [EPA, 1980a; 1980b; 1986; and 1983]).

The DOE is committed to demonstrating compliance with all applicable regulations prior to permanent disposal of TRU wastes in the WIPP repository. These regulations are the environmental standards for management and disposal of TRU wastes as mandated in 40 CFR Part 191 (EPA, 1993) and Part 194 (DOE, 1995), and the RCRA regulations. Compliance will be demonstrated through Sandia National Laboratory/New Mexico (SNL/NM) performance assessment (PA) calculations based on the inventory of existing and currently projected waste streams developed in this document, as reported by the DOE TRU waste generator/storage sites. The WIPP is scheduled to receive and dispose of TRU wastes from 10 major and several minor DOE TRU waste generator/storage sites (see Figure 1-1).

1.2 PURPOSE

The purpose of this report, the *Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report* (WTWBIR), is to document the disposal inventory of TRU waste to be emplaced in WIPP as defined by the DOE TRU waste generator/storage sites. This inventory of CH-TRU and RH-TRU waste will be used in the SNL/NM systems prioritization methodology (SPM)/PA calculations and sensitivity analyses that will support the development of compliance applications to the appropriate regulatory agencies regarding the operations and post-closure timeframes of the WIPP repository.

To accomplish this purpose, the WTWBIR has been developed from the best available information and process knowledge provided by the DOE TRU waste generator/storage sites. In support of SPM/PA, the WTWBIR describes a process for grouping individual waste streams with similar physical and chemical properties into waste profiles, based on their waste matrix code (WMC) (DOE, 1993a) assigned by the DOE TRU waste generator/storage sites. Waste profiles with similar WMCs, are then combined across the DOE TRU waste system to provide estimated total volumes and total waste material parameters. The methodology for this grouping and combining is discussed in detail in Section 2.3, Methodology for Development of Disposal Inventory.

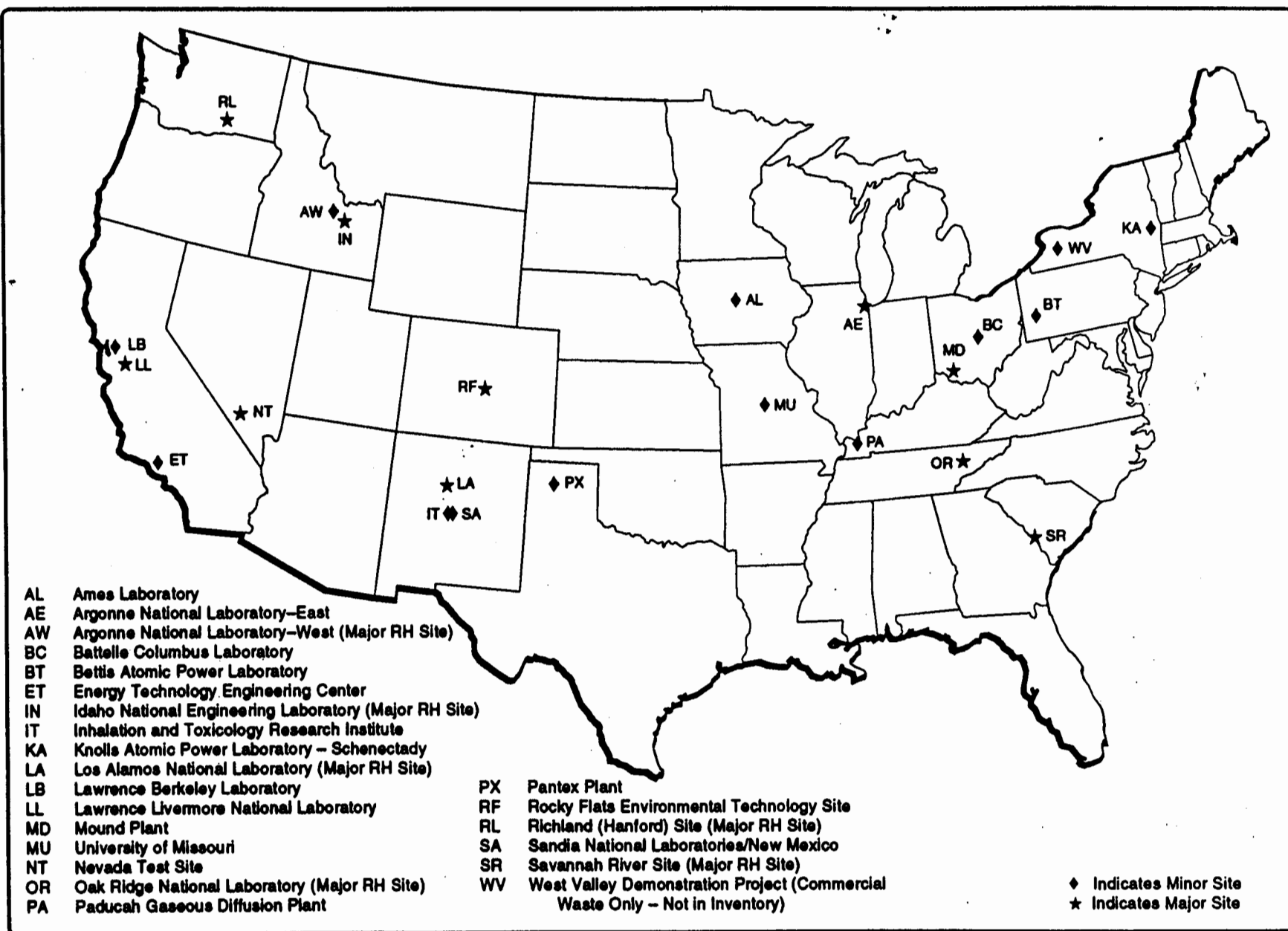


Figure 1-1. U.S. Department of Energy Transuranic Waste Generator/Storage Sites.

The individual waste streams also are evaluated to estimate the occurrence and quantities of non-radioactive waste material parameters as defined in Appendix C and listed in Table 1-1 (e.g., cellulose, plastics, iron-based metals/alloys, etc.) that have been identified by SNL/NM as being potentially important to the performance of the WIPP repository. The methodology, assumptions, and totals of these waste material parameters are described in Chapter 5, Waste Material Parameters.

**TABLE 1-1. TECHNICAL DATA NEEDS FOR SYSTEMS PRIORITIZATION
METHODOLOGY/PERFORMANCE ASSESSMENT WASTE MATERIAL PARAMETERS**

| Waste Material Parameter | Input Variable in Current SPM/PA Models | | Input Variable in SPM/PA Models Under Development | Input Variable in Possible Future SPM/PA Models |
|------------------------------|---|----------------------------|---|---|
| | Gas Generation | Mechanical Characteristics | | |
| Iron-Based Metals/Alloys | YES | YES | YES | YES |
| Aluminum-Based Metals/Alloys | YES ⁽²⁾ | YES | YES | YES |
| Other Metals | | YES | | YES |
| Other Inorganic Materials | | YES | YES | YES |
| Cellulose | YES | YES | YES | YES |
| Plastics | YES ⁽²⁾ | YES | YES | YES |
| Rubber | YES ⁽¹⁾ | YES | YES | YES |
| Solidified Inorganic Matrix | | YES | YES | YES |
| Solidified Organic Matrix | | YES | YES | YES |
| Soils | | YES | | |

(1) Only 50 weight percent included

(2) Added for SPM-2 (Sanchez, 1995)

The information/data presented in this report is derived from the WIPP Transuranic Waste Baseline Inventory Database (WTWBID). The only currently defined application of the WTWBID in this revision of the WTWBIR is in support of the SPM/PA calculations. However, the WTWBID can support other projects and applications requiring waste information in formats different than that used in the WTWBIR. The WTWBID structure and a data dictionary are included in Chapter 7 of this report.

1.3 WASTE INVENTORY TERMINOLOGY

The derivation of a disposal inventory from individual waste streams is a formidable and complex process. To document each step of this process, a system of waste inventory terminology needs to be defined so the reader may more easily follow the process. The following sections provide definitions of terminology used throughout the WTWBIR. These definitions also are summarized in Chapter 8, Glossary. A list of acronyms and abbreviations used are provided in the front of the document.

1.3.1 Inventory Terminology

Stored Inventory – That part of the TRU inventory currently in retrievable storage at the time of the last data call for inventory information is known as "stored inventory." For Revision 1, stored waste includes that waste in storage as of December 31, 1993. Retrievably stored waste includes waste stored since approximately 1970 in buildings or in berms with earthen cover and **does not include any waste that was buried prior to 1970** (DOE, 1994b).

Projected Inventory – That part of the TRU inventory that has not been generated but is currently estimated to be generated at some time in the future by the TRU waste generator/storage sites is considered "projected inventory." Because of the uncertainty associated with ER and D&D waste inventory projections, the ER and D&D wastes are not included in the projected inventory. For Revision 1, a projected inventory includes waste scheduled for generation between calendar years (CY) 1994 and 2022. "Newly generated waste" also is sometimes used as a synonym for the projected inventory.

Anticipated Inventory – For the WTWBIR, this is the sum of the stored and projected inventories, calculated:

$$\begin{array}{ccccc} \text{Stored} & & & & \text{Projected} & & & & \text{Anticipated} \\ \text{Inventory} & + & & \text{Inventory} & = & & \text{Inventory} \end{array}$$

Scaling – The process for adjusting, if needed, the projected inventory to the design limit (disposal inventory) of the WIPP repository is called "scaling." Section 2.3, describes the scaling process used for developing the WTWBIR.

$$\text{Projected Inventory} \xrightarrow{\text{Scaling}} + \text{Stored Inventory} = \text{Disposal Inventory}$$

Disposal Inventory – The total design ($\approx 176,000 \times 10^5 \text{ m}^3$ for CH-TRU and 7080 m^3 for RH-TRU) inventory defined for WIPP emplacement (after scaling, if necessary) to be used for SPM and PA calculations is the "disposal inventory."

1.3.2 Waste Matrix Code Terminology

Waste Matrix Code (WMC) - The WMCs were developed by DOE, in response to the Federal Facilities Compliance Act (FFCA)(Public Law 102-386, 1992), as a methodology to aid in classifying mixed waste streams in the DOE system into a series of four-digit codes (e.g., 5400; Heterogeneous Waste) that represent different physical/chemical matrices. The WMC is assigned

by the TRU waste generator/storage sites. The WTWBIR has adopted this system to remain consistent with the Mixed Waste Inventory Report (MWIR)(DOE, 1994a) which was a database-derived report to meet the first deliverable under the FFCAct. The WMC methodology has been applied to nonmixed TRU waste streams for consistency.

Waste Matrix Code Group (WMCG) – A WMCG consists of a series of WMCs that for SPM or PA purposes have similar physical and chemical properties. An example of combining three WMCs which either contain particulates or are cemented particulate waste is presented below:

| | | |
|--|---|-----------------------|
| WMC 3100 (inorganic process residues) | } | Solidified Inorganics |
| WMC 3110 (inorganic particulates) | | |
| WMC 3150 (solidified process residues) | | |

Because of the restriction on particulate wastes in the *TRU Waste Acceptance Criteria (WAC) for the Waste Isolation Pilot Plant*, Revision 4 (DOE, 1991), all particulate waste will usually be immobilized prior to shipment to WIPP. Therefore, all three of these WMCs would be the same basic waste form when emplaced in WIPP and have similar physical and chemical properties. The combined WMCG for this example is solidified inorganics. Table 1-2 presents all anticipated WMCs for TRU waste and indicates in which WMCG each WMC occurs for the WTWBIR. There are 11 WMCGs used in this WTWBIR. The last two rows in Table 1-2 group WMCs that will not be accepted at WIPP unless additional characterization and/or processing occurs to meet the WIPP WAC (DOE, 1991).

1.3.3 Waste Profile Terminology

Waste Stream Profile – This is a description of a CH-TRU or RH-TRU waste stream potentially destined for shipment to and disposal in WIPP, if authorized under permits and certifications by appropriate regulatory agencies. The waste stream profile is presented in tabular format and is intended to provide a summary of important information about a particular waste stream. Examples of information included in a waste stream profile are:

- Currently used identification codes, including the DOE TRU waste site matrix description;
- WMC assigned by the TRU waste generator/storage sites;
- Volumes of waste currently in retrievable storage and waste projected to be generated: estimated minimum, average, and maximum weights of waste material parameters per cubic meter of waste volume (e.g., iron-based metals/alloys, aluminum-based metals/alloys, cellulose, etc.);
- Indication as to whether the waste is CH-TRU or RH-TRU; and
- Hazardous waste codes (EPA codes) from MWIR or as assigned by the DOE TRU waste generator/storage sites for the RCRA regulated portion of the waste stream. Some waste streams (waste stream profiles) contain hazardous waste codes that would not be currently acceptable for disposal in WIPP (e.g., D001, D002, and D003) under the most recent WIPP Part B Permit Application (DOE, 1993b). These hazardous waste codes are applied to the waste in its current physical form. These waste streams will have to be treated for any unacceptable hazardous waste codes prior to transport to WIPP for disposal.

TABLE 1-2. WASTE MATRIX CODE GROUP NAMES

| Waste Matrix Code Group | Waste Matrix Codes |
|---|--|
| Solidified Inorganics | 1000 ¹ , 1100 ¹ , 1110 ¹ , 1120 ¹ , 1130 ¹ , 1140 ¹ , 1190 ¹ , 1200 ¹ , 1210 ¹ , 1220 ¹ , 1230 ¹ , 1240 ¹ , 1290 ¹ , 3000 ² , 3100, 3110 ³ , 3111 ³ , 3112 ³ , 3113, 3115 ³ , 3116 ³ , 3119 ³ , 3120, 3121, 3122, 3123, 3124, 3125, 3129, 3130, 3131 ³ , 3132 ¹ , 3139 ^{1 or 3} , 3150, 3190, 3900 ² , 6100 ⁴ , 6120 ⁵ , 6130 ⁶ , 6140 ⁵ , 6190 ⁴ , 6200 ⁷ , 6210 ⁸ , 6230 ⁸ , 6290 ⁷ , 7300 ³ , 9100 ² , 9200 ² |
| Salt Waste | 3000 ² , 3140, 3141, 3142, 3143, 3149, 3900 ² |
| Solidified Organics | 2000 ¹ , 2100 ¹ , 2110 ¹ , 2120 ¹ , 2190 ¹ , 2200 ¹ , 2210 ¹ , 2220 ¹ , 2290 ¹ , 2900 ¹ , 3000 ² , 3114, 3200, 3210, 3211, 3212, 3213, 3219, 3220, 3221, 3222, 3223, 3229, 3230, 3290, 3900 ² , 6100 ⁴ , 6110 ⁵ , 6190 ⁴ , 6200 ⁷ , 6290 ⁷ , 9100 ² , 9200 ² |
| Soils | 4000, 4100, 4200, 4900 |
| Uncategorized Metal (Metal Waste Other Than Lead and/or Cadmium) | 5000 ⁹ , 5100, 5110, 5190, 6200 ⁷ , 6220 ⁸ , 7000 ¹⁰ , 7490 ¹¹ , 9300 ¹⁰ |
| Lead/Cadmium Metal | 5000 ⁹ , 5120, 5130, 6200 ⁷ , 6220 ⁸ , 7000 ¹⁰ , 7200, 7210, 7220, 7400 ¹¹ , 7410 ¹¹ , 7420 ¹¹ , 9300 ¹⁰ |
| Inorganic Non-Metal Waste | 5000 ⁹ , 5200, 5210, 5220, 5230, 5240, 5290 |
| Combustible | 5000 ⁹ , 5300, 5310, 5311, 5312, 5313, 5319, 5320, 5330, 5390 |
| Graphite | 5000 ⁹ , 5340 |
| Heterogeneous | 5000 ⁹ , 5400, 5420, 5430, 5440, 5450, 5490, 6200 ⁷ , 6220 ⁸ , 6290 ⁷ |
| Filter | 5000 ⁹ , 5410 |
| Excluded Waste Streams¹² | 5250, 5350, 6300, 6400, 7100 |
| Unknown¹³ | 8000, 8100, 8200, 8900 |

TABLE 1-2. WASTE MATRIX CODE GROUP NAMES (CONTINUED)

- ¹ Liquid waste streams are assumed to be solidified prior to sending to WIPP.
- ² WMCs 3000, 3900, 9100, and 9200 are placed in "solidified inorganics," "salt waste," or "solidified organics," depending on the information provided by the TRU waste generator/storage site.
- ³ Particulate waste streams are assumed to be solidified prior to sending to WIPP.
- ⁴ WMCs 6100 and 6190 are placed in "solidified organics," or "solidified inorganics," depending on the information provided by the TRU waste generator/storage site.
- ⁵ Liquid lab pack waste is assumed to be solidified prior to sending to WIPP.
- ⁶ Solid lab packs are assumed to be solidified prior to sending to WIPP.
- ⁷ WMCs 6200 and 6290 are placed in "solidified organics," "solidified inorganics," or "heterogeneous" if the waste stream must be solidified per the generator/storage site. They are placed in "uncategorized metal," or "lead/cadmium metal waste" if they are primarily nonreactive metal contaminated with reactive metal. Reactive waste streams must be treated prior to shipment to WIPP.
- ⁸ Waste stream is assumed to be treated prior to sending to WIPP. Volume change is provided by the TRU waste generator/storage site.
- ⁹ WMC 5000 is placed in "uncategorized metal," "lead/cadmium metal," "inorganic non-metal," "combustible," "graphite," "heterogeneous," or "filter," depending on the information provided by the generator/storage site.
- ¹⁰ WMC 7000 and 9300 are placed in "uncategorized metal" or "lead/cadmium metal," depending on the information provided by the generator/storage site.
- ¹¹ WMCs 7400, 7410, 7420, and 7490 are assumed to be drained of liquid and contain only metal waste.
- ¹² These waste streams are excluded from disposal in WIPP at this time, e.g., PCB and asbestos wastes (see Table 3-2).
- ¹³ If adequate information is provided by the generator/storage site, these WMCs are changed. If there is not enough information, these waste streams remain as "unknown" and are excluded from disposal in WIPP until characterized.

- Comments provided by the TRU waste generator/storage sites to further explain the data provided.
- Footnotes generated by the WTWBIR team to explain information provided by the generator/storage sites.
- TRUPACT-II Content (TRUCON) Codes (DOE, 1992) and No Migration Variance Petition (NMVP) (DOE, 1990) identifiers.

Figure 1-2 provides an example of a blank waste stream profile form. The methodology for developing waste stream profiles is provided in Chapter 3 and printouts of TRU waste stream profiles are provided in Appendix A.

Site-Specific Waste Profile – This represents a WMCG at a particular DOE TRU waste generator/storage site. That is, one or more waste stream profiles at a particular DOE TRU waste site, that have been placed in the same WMCG, are summarized in the site-specific waste profile. Examples of information included in a site-specific waste profile are:

- DOE TRU waste generator/storage site identification;
- The WMCG that the profile represents;
- Listing of the waste streams (represented by waste stream profiles provided by the TRU waste generator/storage sites) that are included in the site-specific waste profile, including the waste stream identification;
- Volumes of stored and currently projected waste; and
- Summary of minimum, volume weighted average, and maximum weights of waste material parameters per cubic meter of waste volume (e.g., iron-based metals/alloys, aluminum-based metals/alloys, cellulose, etc.).

Figure 1-3 provides an example of a blank site-specific waste profile form. The methodology for developing site-specific waste profiles is provided in Chapter 3 and printouts of TRU site-specific waste profiles are provided in Appendix B.

WIPP Waste Profile – The WIPP waste profile represents a summary of TRU waste at all DOE TRU waste generator/storage sites that have an identical WMCG. Examples of information included in a WIPP waste profile are:

- Profile name;
- The WMCG that the profile represents;
- Listing of the DOE TRU waste sites (represented by the same WMCG) that are included in the WIPP waste profile, including the name of the DOE TRU waste site;
- Volumes of stored and currently projected waste for each site for the particular WMCG represented; and
- Summary of minimum, volume weighted average, and maximum weights of waste material parameters per cubic meter of waste volume (e.g., iron-based metals/alloys, aluminum-based metals/alloys, cellulose, etc.).

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WASTE TYPE HANDLING GENERATOR SITE

| | | | | |
|--------------------------------|----------------------|----------------------|--------------------|----------------------|
| WASTE STREAM | MWIR ID | <input type="text"/> | STREAM NAME | <input type="text"/> |
| | WIPP ID | <input type="text"/> | | |
| | Local ID | <input type="text"/> | DESCRIPTION | |
| | MATRIX CODE | <input type="text"/> | | |
| SITE FINAL FORM IDC | <input type="text"/> | | | |
| Waste Matrix Code Group | | <input type="text"/> | | |
| Site Matrix Description | | <input type="text"/> | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT **TRUCON CODE**

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | |
|-----------------------|--------------------------|-------------------|--------------------------|---------------------------|--------------------------|------|----------|--------------------------|
| Defense TRU Waste | <input type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | |

Figure 1-2. Blank Waste Stream Profile Form

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME

WASTE TYPE

HANDLING

GENERATOR SITE

CONTAINER:

Type/Size:

Container Matl:

Int. Vol/Ctnr: m3

Liner Type:

Liner Material:

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

Material Parameters

Iron-based Metals/Alloys
Aluminum-Based Metals/Alloys
Other Metals
Other Inorganic Materials
Cellulosics
Rubber
Plastics
Solidified, Inorganic matrix
Solidified, Organic matrix
Soils
Packaging Materials, Steel
Packaging Material, Plastic

Average

Lower Limit

Upper Limit

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | | | m3 |
| End of 1993: | | | m3 |
| 1994: | | | m3/yr |
| 1995: | | | m3/yr |
| 1996: | | | m3/yr |
| 1997: | | | m3/yr |
| 1998-2002: | | | m3/yr |
| 2003-2022: | | | m3/yr |

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity

TYPICAL EPA CODES APPLICABLE

Figure 1-2. Blank Waste Stream Profile Form (continued)

Site-Specific Contact Handled Waste Profiles

Site Name:**Final Waste Form:**

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
|------------------------|------------------------------------|-----------------------|-------------------|

Total Volume:

| <u>Material Parameters (kg/m3)</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|----------------|----------------|----------------|
| Inorganics | | | |
| Iron Based | | | |
| Aluminum Based | | | |
| Other Metals | | | |
| Other Inorganics | | | |
| Organics | | | |
| Cellulose | | | |
| Rubber | | | |
| Plastics | | | |
| Solidified Materials | | | |
| Inorganic | | | |
| Organic | | | |
| Soils | | | |

Figure 1-3. Blank Site-Specific Waste Profile Form

Figure 1-4 provides an example of a blank WIPP waste profile form. The methodology and assumptions for developing WIPP waste profiles and printouts of the WIPP profiles are provided in Chapter 3.

1.3.4 Database Terminology

Mixed Waste Inventory Report (MWIR) – The MWIR refers to the latest release of information from the MWIR database that supports requirements under the FFCAct of 1992 (Public Law 102-386). The latest version of the MWIR documentation/files is *Distribute [Distribution] of Phase II Mixed Waste Inventory Report Data*, dated May 17, 1994 (DOE, 1994a).

Integrated Data Base (IDB) – The IDB refers to the latest version of the Integrated Data Base: U.S. Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics (DOE, 1994b).

WIPP Transuranic Waste Baseline Inventory Database (WTWBID) – The WTWBID is the database specifically developed to support the WTWBIR and any other applications that might need waste information on a waste-stream basis or for higher-level roll-ups.

1.3.5 Other Terminology

Waste Material Parameter – This is one or more nonradioactive waste constituents that occur in a TRU waste stream that is an input parameter into one or more current SPM or PA models, an SPM or PA model under development, a potential future model, or is required to adequately describe the waste form (see Appendix C). The 10 waste material parameters have been grouped by their chemical/physical properties and are indicated in bold lettering. The 10 waste material parameters and additional packaging materials that are reported in densities and included in the WTWBIR are:

- Inorganics
 - **Iron-based metals/alloys**
 - **Aluminum-based metals/alloys**
 - **Other metals**
 - **Other inorganic materials**
- Organics
 - **Cellulosics**
 - **Rubber**
 - **Plastics**
- Solidified Materials
 - **Inorganic matrix**
 - **Organic matrix**
- Soils
- Packaging Materials
 - **Steel**
 - **Plastic**
 - **Lead**

Definitions for these waste material parameters can be found in Chapter 5.

WIPP Contact Handled Waste Profiles**Final Waste Form:**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------------------|------------------------------------|-----------------------|-------------------|
| <hr/> | | | |
| Total Volume | | | |
| <hr/> | | | |
| <u>Material Parameters (Kg/m3)</u> | | | |
| | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | | |
| | Aluminum Based | | |
| | Other Metals | | |
| | Other Inorganics | | |
| Organics | Cellulose | | |
| | Rubber | | |
| | Plastics | | |
| Solidified Materials | Inorganic | | |
| | Organic | | |
| Soils | | | |

Figure 1 - 4. Blank WIPP Waste Profile Form

1.4 OBJECTIVES

The objectives of the WTWBIR are threefold:

1. **Establish a consistent DOE complex-wide methodology for grouping wastes of similar physical and chemical composition.** A consistent methodology, in support of SPM/PA, for grouping TRU wastes of similar physical and chemical properties into "waste profiles" will provide a common frame of reference for discussion of TRU waste issues with regulatory organizations.
2. **Define the anticipated disposal inventory of TRU wastes destined for WIPP.** The anticipated inventory of CH-TRU and RH-TRU wastes is defined as the sum of the existing volumes of stored and currently projected waste streams at each of the TRU waste generator/storage sites. The design capacities of WIPP are calculated as follows:
 - Maximum CH-TRU capacity = 6.2 million cubic feet (~176,000 cubic meters) (Public Law 102-579, 1992),
 - RH-TRU design capacity = 7080 cubic meters = 7955 canisters x 0.89 cubic meters/canister

Scaling of the CH-TRU and RH-TRU waste projected inventories is necessary to attain the WIPP design limit. There is a high level of uncertainty in and a current lack of data on waste produced by decontamination and decommissioning (D&D) and environmental restoration (ER) activities. Therefore, the projected inventory has been scaled to the WIPP capacity (disposal inventory). The scaling of the inventory in this and future revisions of the WTWBIR is derived from the best available data and assumptions.

3. **Calculate the disposal inventory in terms of waste material parameters.** Several waste material parameters (e.g., iron-based metals/alloys, rubber, plastics, etc.) have been identified by SNL/NM as being potentially significant in relation to the performance of the WIPP repository (see Table 1-1). Calculating the WIPP disposal inventory in terms of these parameters provides input for the SPM and PA calculations and sensitivity analyses needed to determine compliance with federal standards.

1.5 TRU SYSTEM-WIDE DATA ASSUMPTIONS

As stated earlier, the WTWBIR was developed using the best available information from the TRU waste generator/storage sites. Some sites used different assumptions and methodologies for reporting its waste stream data. Because of these differences, the WTWBIR team had to make assumptions and take specific steps to ensure consistency among the sites' reported data. This section addresses the system-wide assumptions and actions taken by the WTWBIR team in rolling up the waste stream data. For a description of site-specific assumptions, see Appendix A.

1.5.1 Waste Material Parameter Assumptions

The waste material parameter information reported by the sites must be summed and averaged to obtain data at the site-specific and WIPP waste profile levels. For some waste streams, however, not all of the waste parameter data were available from the sites. In order to calculate

material parameters from the waste stream data provided by the sites, the following assumptions were made by the WTWBIR team:

- If only the average waste material value was provided for a specific waste stream, the average value was assigned to the minimum and maximum values.
- If the maximum value was provided and the minimum value was zero, the average value was computed as half of the maximum value.
- If only the minimum value was provided, the minimum was assigned to both the maximum and average values.
- If only the final waste form group was provided, the average set of parameters was calculated by volume averaging the parameters from other waste streams of the same final waste form group.

Waste material parameter data contained in the body of this report are based on these assumptions, whereas, individual waste stream profiles included in Appendix A contain the original, unchanged data as reported by the generator/storage sites.

1.5.2 Inventory Volume Assumptions

Other assumptions had to be made by the WTWBIR team to ensure consistency in WIPP inventory volumes:

- The volume reported for the years 1992 and 1993 was supposed to be cumulative, whereas, the values for the remaining years were to be reported as generation volume per year. Since not all of the sites reported their inventory in this manner, the WTWBIR team had to recalculate the volumes provided to attain a cubic meter/year basis for some waste stream volumes;
- Many sites did not provide final waste form volumes. Final waste form volumes are used in determining the overall WIPP inventories. In those instances, the WTWBIR team assumed that the reported, current volume would be the same as the final waste form volume.

1.5.3 Packaging Material Assumptions

The TRU waste container data was not reported consistently. While most did, many of the sites did not provide data for final form in WIPP approved containers. Some reported their waste in current containers while others did not provide container information. Adjustments had to be made to the data to:

- Achieve consistency at the waste stream level in the presentation of data in the waste stream profiles (Appendix A)
- Produce the upper-level waste packaging rollups needed by SPM/PA as inputs to the modeling activities.

Waste Profile Assumptions

The WTWBIR team assigned the TRUCON and NMVP codes based on the best available information. Each waste stream profile in Appendix A was reviewed for consistency in reporting packaging configurations. In cases where incomplete information was submitted by the TRU

sites, clarifications were requested from the TRU waste generator/storage sites. In those cases where clarifications were not received from the TRU sites, the following assumptions were made, concerning the waste stream profiles:

- If the site provided final form containers, the final form containers (i.e., drums, standard waste boxes [SWB], or RH canisters) were used.
- In some cases where final waste form containers were not provided a 55-gallon drum was assumed.
- If a particular waste container was reported by the sites (but no further information was provided) or was assigned by the WTWBIR team (e.g., 55-gallon drum), "standard" values of the waste container properties (see Table 1-3) were added to the waste profile forms. An example of this process is listed below for a reported 55-gallon drum without any additional information:
 - Type of material used to fabricate the waste container (steel)
 - The internal volume of the container (0.208 m^3)
 - Inclusion of a "standard" density for the container (131 kg/m^3).
- If sites reported a "plastic" or "rigid" liner without any further definition of the liner then the values in Table 1-3 were used in the waste stream profiles:
 - A 90-mil high density polyethylene (HDPE) liner was assumed
 - The density for that type of liner was assumed (37 kg/m^3).
- If the container fields called "Number Stored" and "Number Projects" are left blank, it is because of one of the following reasons:
 - There is a change from one type of waste container to another on the waste profile form page 2 (different internal container volumes) and therefore the number of containers stored and projected represent different volumes and a direct comparison is not possible.
 - There is an unresolved discrepancy between the number of containers and the volumes quoted on the waste stream profile. It has been assumed that the waste volumes are the most accurate information provided by the TRU waste sites.

For CH-TRU waste containers, the following assumptions were also made:

- If waste was reported in containers larger than drums, then the waste was divided into SWBs with standard plastic bag liners. The standard internal volume for SWBs (Table 1-3) and the reported waste stream volume were used to determine the number of SWBs.
- If the waste was reported in a liquid or sludge form (i.e., tanks), the WTWBIR team assumed that the waste will be placed in drums with rigid liners. No treatment volume expansion was included unless reported as such by the sites.

For RH-TRU waste, the following assumptions were made:

- If the waste was reported in drums, the drums were assumed to be overpacked in RH canisters at three drums per canister.
- If the waste was not reported to be in drums, the waste was assumed to be direct loaded into RH canisters. The standard internal volume for RH canisters and the reported waste stream volume were used to determine the number of RH canisters.
- The lead in the RH canister (465 kg/m^3) is assumed in the packaging rollups even if it is not stated on each RH waste stream profile.

Table 1-3. Packaging Material Assumptions

| Container Configuration | Steel (kg/m^3) | Plastic (kg/m^3) | Lead (kg/m^3) | Volume (m^3) |
|---|------------------------------|--------------------------------|-----------------------------|----------------------------|
| 55-gallon drum | 131 | 37 | N/A | 0.208 |
| SWB (direct load) | 154 | 1.2 | N/A | 1.89 |
| SWB (overpack) (4 55-gallon drums) | 210 | 16 | N/A | 1.89 |
| RH-TRU Canister | 435 | 0 | 465 | 0.89 |
| RH-TRU Canister (overpack of 3 55-gallon drums) | 527 | 26 | 465 | 0.89 |

Assumptions to Produce Packaging Estimates on a System-Wide Basis

In order to add up the packaging materials for the waste as it would arrive at WIPP, the following standard container configuration was used for computing waste packaging materials from all sites. If the site provided final waste form containers, the final form containers (i.e., drums, standard waste boxes [SWB], or RH Canisters) were used, but standard liners were assumed. This was done because many sites did not provide liner information. The inclusion of standard liners produces a conservative estimate for PA and SPM calculations.

1.5.4 Radionuclide Information Assumptions

There are some waste streams from TRU waste sites which report for some waste streams incomplete radionuclide information (e.g., some show mixed fission products but no transuranic isotopes). These waste streams are expected to be demonstrated to be TRU upon completion of the radionuclide characterization.

The waste stream profiles provided in Appendix A contain waste stream specific radionuclide information, if provided by the TRU waste sites. Some sites provided only isotopic mixes, which are explained in Appendix H.

1.5.5 Comparison of IDB versus WTWBIR Waste Volumes

Differences occur between the waste volumes reported in the draft Revision 10 of the IDB (Appendix I) and those reported in Chapter 6 on a site level. Listed below is the currently-known logic for some of the differences:

- In the IDB, 40% of the INEL CH-TRU waste and 50% of the Hanford CH-TRU waste reported is assumed to be low-level waste by INEL and Hanford and is not included in the WTWBIR
- Some of the projected waste at ANL-E in the WTWBIR is accounted for in the Hanford projections. This is not the case for the IDB.
- The ANL-W waste reported for WTWBIR is included in the INEL IDB waste volumes.
- The totals for SRS CH-TRU and RH-TRU projected waste volumes in the draft Revision 10 IDB are in error. The corrected IDB total projected CH-TRU is 13,700 m³ and for RH-TRU, 35.9 m³.

These inconsistencies and others between the WTWBIR and IDB for TRU waste volumes is a main focus of the Revision 2 data update of the WTWBIR.

1.6 BASELINE INVENTORY UPDATES

The WTWBIR represents the best available TRU waste inventory information in support of the WIPP Project. It is anticipated that the WTWBIR will be updated periodically. This update cycle will be modified based on the availability of additional waste information or the data needs of the WIPP Project as determined by the DOE.

1.7 DOCUMENT ORGANIZATION

The WTWBIR is organized into chapters of text, figures, tables and supporting appendices. It flows from specific, detailed TRU waste information (provided by the TRU waste generator/storage sites) to the top level development and description of waste profiles and waste material parameters. The contents of remaining chapters in this document are summarized below:

- Chapter 2 discusses the methodology used to define the TRU waste disposal inventory.
- Chapter 3 outlines the methodology used to derive waste stream profiles, site-specific waste profiles, and WIPP waste profiles.
- Chapter 4 provides the WIPP disposal radionuclides inventory. The methodology used for deriving the inventories is also included.
- Chapter 5 rolls up the waste material parameter information assigned at the waste stream profile level in Chapter 3 to obtain parameter totals. These totals are presented as parameter weights per volume.
- Chapter 6 presents stored and projected CH-TRU and RH-TRU inventories by site and a system-wide rollup of CH-TRU and RH-TRU volumes.
- Chapter 7 contains a description of the WTWBIR and a data dictionary.
- Chapter 8 contains a glossary of important terms used in this document.
- Chapter 9 lists references cited in the WTWBIR.
- Several appendices also are provided to either present more detailed waste inventory information or to describe the methodology in more detail. The appendices are provided in Volumes 2 and 3 of this WTWBIR.

2. TRU WASTE DISPOSAL INVENTORY

2.1 INTRODUCTION

The TRU waste disposal inventory is derived from existing information on waste, which has been provided by the DOE TRU waste generator/storage sites and is predominately based on process knowledge. In addition to the general process knowledge of a waste stream for nonradionuclide parameters, the radionuclide inventories from the IDB TRU waste site submittals (DOE, 1994b) are derived from non-destructive assay, with some analytical analyses (to detect isotopes that do not lend themselves to non-destructive analyses or to evaluate waste streams that cannot be effectively analyzed through non-destructive methods), and on-site accountability and tracking records of special nuclear materials including any changes of isotopic ratios during processing. This chapter is designed to assist the reader by describing the existing waste information used to derive the inventory and the methodology used to correlate and combine the existing data into a WIPP disposal inventory.

2.2 SOURCE OF TRU WASTE INFORMATION

Transuranic waste information primarily exists in two forms within the DOE TRU waste system:

- On-site documentation developed by the TRU waste generator/storage sites during the history of their operations.
- Summary reports, usually prepared to support WIPP documentation requirements. These summary reports have either been generated by the DOE area office in charge of WIPP or at the DOE-Headquarters (HQ) level. The information contained in these reports is derived from the TRU waste generator/storage sites.

2.2.1 Site-Specific Waste Information

The TRU waste generator/storage sites use a variety of on-site documents and records in order to derive the information listed in the individual waste streams in Appendix A. The documents/records can include many different sources, some of which might be the following: procurement records, waste stream process manuals, operating procedures, on-site safety documentation, process diagrams, waste production records, storage records, on-site waste database management systems, interviews with existing and former workers, transportation records, waste container tracking records, on-site documentation prepared for local, state, or regional regulators. This list is not meant to be inclusive or representative of all records used at every site. It is intended to be used for example purposes only. The number and types of documents can vary greatly from site-to-site so it is impractical to list them as references in this document.

Each DOE TRU waste site was provided, by the WTWBIR team, WTWBIR Revision 0 data packages defining the characterization of each TRU waste stream at their site. The generator/storage sites reviewed, changed, and authorized the characterization as valid for use in developing the WIPP inventory.

2.2.2 Existing Summary Documents on TRU Waste Information

In support of various programs, the DOE has published a series of documents over the years in support of various programs which contain varying amounts of waste information. Listed below are those documents that have formed the foundation of summary TRU waste information prior to the publication of the WTWBIR.

Mixed Waste Inventory Report

The FFCAct required that the DOE, within 180 days of enactment of the FFCAct, submit to the EPA Administrator and the governor of each state in which the DOE stores or generates mixed wastes a report that contains:

- National inventory of all mixed wastes, regardless of the time they were generated, on a state-by-state basis and
- National inventory of mixed waste treatment capacities and technologies.

The FFCAct also stipulated specific reporting requirements for each of these inventories. The DOE submitted the six-volume set entitled: *U.S. Department of Energy Interim Mixed Waste Inventory Report: Waste Streams, Treatment Capacities and Technologies*, DOE/NBM-1100, dated April 1993 (DOE, 1993c), to fulfill these requirements. Since issuance of the "interim" report, DOE has requested additional information from the DOE TRU waste generator/storage sites and published two updated reports entitled:

- *Release of Phase I Mixed Waste Inventory Report Data*, dated April 1, 1994 (Phase I MWIR) (DOE, 1994c), which includes a data diskette (Version .97B) and the draft *Mixed Waste Inventory Report Data Base System User's Guide*.
- *Distribute [Distribution] of the Phase II Mixed Waste Inventory Report Data*, dated May 17, 1994 (Phase II MWIR) (DOE, 1994a), which includes a data diskette (Version 1.00) and the draft *User's Guide for National Data Base System for the Final Mixed Waste Inventory Report* (May 1994).

The Phase II MWIR was the basis of the mixed waste streams that were included in Revision 0 of the WTWBIR. The DOE waste generator/storage sites have reviewed the existing waste streams from Revision 0 of the WTWBIR and have updated the information. In a very few cases mixed waste streams from the Phase II MWIR have been deleted by the generating/storage sites from Revision 1 of the WTWBIR. Any waste stream that was published in the Phase II MWIR and has a waste stream profile in the WTWBIR contains an identification code in the "MWIR ID" and "WIPP ID" fields on the waste stream profile forms (see Figure 1-2). The identification codes are assigned using the following format:

- DD-WXXX;
 - DD = Site Identification Code (from Figure 1-1)
 - XXX = Three digit numerical code assigned by DOE-HQ

Some sites have submitted "new" mixed waste streams with the Revision 1 WTWBIR data call, which were not in the Phase II MWIR. Therefore, these waste streams have not been assigned DD-WXXX identification numbers by DOE-HQ. Those mixed TRU waste streams which have been reported for the first time in Revision 1 of the WTWBIR have been designated as:

- DD-MXXX (DD and XXX have same meaning as for the MWIR waste streams, except that the three digit numerical code was assigned by the WTWBIR team)

Waste streams that are nonmixed TRU waste do not appear in the Phase II MWIR. Nonmixed TRU waste streams that appear in the WTWBIR have been designated as follows:

- DD-TXXX (DD and XXX have the same meaning as for MWIR waste streams, except that the three digit numerical code was assigned by the WTWBIR team)

INEL included some nonmixed waste streams in the Phase I MWIR which had the MWIR characteristic DD-WXXX identification. These have been retained in the WTWBIR, but all other nonmixed TRU waste streams have used the DD-TXXX designation, including some "new" nonmixed waste streams from INEL.

Integrated Data Base

The IDB (DOE, 1994b) is published by Oak Ridge National Laboratory (ORNL) for the DOE. The ORNL assembles radioactive waste inventories provided by DOE TRU waste generator/storage sites. This database does not report by waste stream, but rather, by the total inventory at each DOE site. The IDB also contains the radionuclide isotopic distribution for the waste stored at each site. Because consistent reporting is not available at the waste stream level, the radionuclide information in the IDB is the basis for the Revision 1 WTWBIR inventory for radionuclides (see Chapter 4). Where sites provided radionuclide data, it is replicated in Appendix A. A WIPP disposal radionuclide inventory is provided in Table 4-2. This table is derived from unpublished IDB submittals from the TRU waste sites.

Other Sources of TRU Waste Information

There are three additional summary documents that have been produced which contain extensive information about TRU waste. The amount and form of the documentation varies between documents due to the initial purpose for including waste information. These include:

- TRUCON (DOE, 1992) - The TRUPACT-II Content (TRUCON) Code document was developed to provide waste information to the Nuclear Regulatory Commission in support of the TRUPACT-II certification application. The TRUCON concentrated on those waste parameters that were important for safe transportation of TRU waste (e.g., thermal heat loading, criticality, free liquids, etc.)
- NMVP (DOE, 1990) - The No-Migration Variance Petition (NMVP) was developed by DOE to obtain a variance from the land disposal restrictions for mixed waste as allowed under 40 CFR 268.6 (EPA, 1986). The NMVP waste information concentrated on defining the volumes of various known TRU and MTRU waste streams in the DOE system at that time, and identifying the hazardous constituents expected to be found in the MTRU waste streams. Text was provided in the NMVP on each known waste stream at that time which summarized the process knowledge and sampling and analysis information available (many WTWBIR waste streams were not defined at the time the NMVP was developed).
- WIPP RCRA Part B Permit Application (DOE, 1993b) - This document which will be revised and submitted to obtain a Part B Permit for WIPP to the State of New Mexico. This document will represent in some parts an update of the NMVP and will incorporate much information from the WTWBIR.

TRU waste streams that are included in the TRUCON and the NMVP are cross correlated, if possible, to WTWBIR waste streams in Appendix F. The designation of each waste stream in the TRUCON and NMVP, if applicable, can be found on the waste stream profile (Figure 1-2). The WTWBIR should be considered the most current source of waste stream information when there is a discrepancy in information between the WTWBIR and the TRUCON or NMVP documents.

2.3 METHODOLOGY FOR DEVELOPMENT OF DISPOSAL INVENTORY

Development of the WIPP TRU waste disposal inventory is accomplished by a series of steps starting with the individual waste streams submitted by the TRU waste generator/storage sites that are identified in Appendix A. These waste stream profiles are grouped together, based on similar physical and chemical properties, into common "WIPP waste profiles," which should facilitate discussions concerning the disposal waste inventory with regulatory agencies and stakeholders. The waste profiles also contain information on waste material parameters that could affect the performance of the WIPP repository and that may be direct inputs to the SPM and PA models. A more detailed explanation of the waste profile methodology is found in Chapter 3.

Because the existing stored and currently projected CH-TRU waste streams do not contain sufficient volume to fill the maximum allowed (designed) capacity of WIPP, scaling of the projected inventories is necessary to attain the following WIPP design inventory:

- Maximum CH-TRU design inventory = 6.2 million cubic feet (~176,000 cubic meters) (Public Law 102-579, 1992)

The anticipated inventory (as defined in Section 1.3.1) consists of 11 overall CH-TRU WIPP waste profiles based on the physical and chemical properties of the waste streams. The CH-TRU scaling factor is computed as follows:

- For CH waste:

$$\frac{\text{design inventory} - \text{stored inventory}}{\text{projected inventory}} = \text{CH-TRU scaling factor}$$

The RH-TRU anticipated inventory would be scaled using the same methodology. If the anticipated RH-TRU and CH-TRU inventories are less than the WIPP design limits, the projected inventory in future revisions of the WTWBIR will include volumes of waste anticipated from D&D and ER activities as these estimates are made available.

The disposal inventory is the total inventory to be used in SPM and PA calculations. To calculate the disposal inventory by WMCG for CH-TRU waste, the projected inventory is multiplied by the scaling factor, added to the stored inventory for each WMCG and summed together. See Section 3.3.2 for further details.

3. WASTE PROFILE METHODOLOGY

3.1 WASTE STREAM PROFILE METHODOLOGY

3.1.1 Introduction

The lowest tier of information in the WTWBIR is the waste stream profile, which documents specific information for each separate TRU waste stream identified by each DOE TRU waste generator/storage site. In this chapter the waste stream profile will be discussed along with the methodology for grouping waste streams into site-specific profiles and WIPP waste profiles.

3.1.2 Waste Stream Profile Description

Each DOE TRU waste generator/storage site was provided data packages that contained the waste material parameter characterization as defined in the WIPP disposal inventory (WTWBIR, Revision 0). Each DOE site was asked to review the data packages and update the information as necessary (see Appendix D for the WTWBIR Revision 1 Questionnaire). Additionally, the sites were required to generate data packages for waste streams that were not defined. This data submittal from the DOE generator/storage sites provided approximately 360 individual TRU waste streams that were used in developing the waste stream profiles (see Appendices A and J). These waste stream profiles were developed using information from the sources listed in Section 2.2. Figure 3-1 provides an example TRU waste stream profile for an INEL waste stream.

In addition to presenting the quantity of waste material parameters in each DOE waste stream, the waste stream profile also provides a cross-reference (top of the waste stream profile form) to the different waste stream nomenclature used in previously generated DOE documents (i.e., TRUCON, NMVP). Appendix F provides a cross correlation table for a WTWBIR waste stream with the NMVP and the TRUCON. The fields utilized on the waste stream profile, the sources of the information, and a short explanation of the data located in a particular field are described in Table 3-1. A complete set of the waste stream profiles is provided in Appendices A and J. Because the West Valley Demonstration Project (WVDP) is a commercial TRU waste site, it is not part of the WIPP inventory, but the WVDP waste stream profiles are provided in Appendix J for information purposes.

The sites were not requested to provide the EPA codes as this information was derived from the Phase II MWIR. EPA codes for mixed waste streams not defined in MWIR were provided by the generator/storage site. During development of the MWIR, DOE directed the TRU waste generator/storage sites to append their hazardous waste codes (EPA codes) to further define the waste in order to develop an appropriate treatment technology. These code designations and descriptions are presented in Appendix G. For example, D003 is defined by EPA as reactive. DOE further defined this code as D003A (reactive cyanide), D003B (reactive sulfides), D003C (explosives), D003D (water reactives), and D003E (other reactives).

3.1.3 Assignment of the Waste Matrix Code Group

The DOE TRU waste generator/storage sites have assigned an overall WMC to each waste stream based on the current form of the waste. The WIPP Project has developed the WIPP WAC (DOE, 1991) for any waste packages to be shipped to WIPP to ensure the safe handling and emplacement of the waste packages in the WIPP. In general, the waste forms acceptable for emplacement in WIPP are described in Table 1-2. Each waste stream has been assigned a WMC by the TRU waste generator/storage site that defines the general physical and chemical properties of the waste.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **IN** WASTE TYPE **MTRU** HANDLING **CH** GENERATOR SITE **RF**

| | | | | | |
|--------------------------------|----------|--|--------------------|----------------------------------|--|
| WASTE STREAM | MWIR ID | IN-W169 | STREAM NAME | Predominantly Combustible Debris | |
| | WIPP ID | IN-W169 | | DESCRIPTION | Combustibles (TRU): Dry paper and rags |
| | Local ID | ID-EGG-114T-330 | | | |
| MATRIX CODE | | 5440 | | | |
| SITE FINAL FORM IDC | | | | | |
| Waste Matrix Code Group | | Heterogeneous | | | |
| Site Matrix Description | | The waste stream is from Rocky Flats Plant and primarily consists of line- and nonline-generated dry combustible materials such as paper, rags, plastics, surgical gloves, cloth overalls and booties, cardboard, wood, wood filters frames, PE bottles, and laundry lint. Some combustibles may be damp or moist. Limited amounts of noncombustibles such as glass, concrete, cement, lead glovebox gloves, batteries, and metal scrap may also be present. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 116; 216C TRUCON CODE ID 216C

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|---------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | |

Figure 3-1. Example of TRU Waste Stream Profile From Idaho National Engineering Laboratory

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W169

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 20822

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 36.8 | 0.0 | 233.0 |
| Other Inorganic Materials | 27.2 | 0.0 | 196.0 |
| Cellulosics | 135.0 | 6.6 | 817.0 |
| Rubber | 57.2 | 0.0 | 330.0 |
| Plastics | 188.0 | 14.8 | 887.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

10% of this waste stream volume is classified as RH-TRU without current shielding. It is anticipated that the RH-TRU portion will be shipped as CH-TRU with internal shielding.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 4331.0 | 4331.0 m3 |
| End of 1993: | 4331.0 | 4331.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Am241 | 3.79E-01 | Curies/m3 |
| Pu52 | 4.39E+00 | Curies/m3 |
| U235 | 2.59E-06 | Curies/m3 |
| U238 | 8.48E-11 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008A
D008C
D022
D029
F001
F002
F003
F005
F005A

Figure 3-1. Example of TRU Waste Stream Profile From Idaho National Engineering Laboratory (continued)

**TABLE 3-1. SOURCES OF INFORMATION USED IN
WASTE STREAM PROFILES**

| Information Field | Source of Information | Explanation |
|--|-------------------------------|--|
| PAGE 1 OF WASTE STREAM PROFILE | | |
| SITE NAME | TRU waste sites | Storage site for existing waste; Generating site for projected waste |
| Waste Type | TRU waste sites | MTRU – mixed TRU – nonmixed |
| Handling | TRU waste sites | CH – Contact-Handled RH – Remote-Handled |
| Generator Site | TRU waste sites | TRU waste site that originally generated waste |
| <u>WASTE STREAM</u> MWIR ID | DOE-HQ | MWIR identification code assigned |
| <u>WASTE STREAM</u> WIPP ID | WTWBIR | MWIR ID used if available; new mixed WS "-MXXX"; nonmixed WS "-TXXX" |
| <u>WASTE STREAM</u> Local ID | TRU waste sites | On-site ID used at TRU waste sites |
| STREAM NAME | TRU waste sites | Usual name used to identify waste stream by TRU waste site |
| DESCRIPTION | TRU waste sites | Short description of waste generating process |
| <u>MATRIX CODE</u> | TRU waste sites | Physical/chemical waste matrix code assigned by each TRU waste site from MWIR (DOE, 1993a) |
| Waste Matrix Code Group | TRU waste sites and/or WTWBIR | Grouping of wastes in 11 WIPP profiles (see Table 1-2) |
| Site Matrix Description | TRU waste sites | Usually a description of the physical/chemical matrix of WS |
| NO-MIGRATION VARIANCE PETITION ASSIGNMENT | TRU waste sites and/or WTWBIR | If applicable, what a waste stream is called in the NMVP |

**Table 3-1. SOURCES OF INFORMATION USED IN
WASTE STREAM PROFILES (continued)**

| Information Field | Source of Information | Explanation |
|---|-------------------------------|---|
| TRUCON CODE | TRU waste sites and/or WTWBIR | If applicable, what a waste stream is called in the TRUCON |
| <u>CHECK OFF BOXES</u> | TRU waste sites | Categorization fields for TRU waste stream |
| Comments | TRU waste sites | Lists comments/assumptions provided by TRU waste sites on the waste description. |
| Footnotes | WTWBIR | Explain data provided by the TRU waste generator/storage site and/or list assumptions made by WTWBIR. |
| PAGE 2 OF WASTE STREAM PROFILE | | |
| SITE NAME Waste Type Handling Generator Site | TRU waste sites | Same as Page 1 of form |
| <u>CONTAINER</u> | TRU waste sites | Type of waste container that information on page two is based on (e.g., Drum) |
| <u>CONTAINER</u> Container Matl | TRU waste sites | Type of material that a waste container is constructed from (e.g., steel) |
| <u>CONTAINER</u> Liner Type | TRU waste sites | Description of the liner, if used in the waste container (e.g., rigid, plastic liner bags) |
| <u>CONTAINER</u> Type/Size | TRU waste sites | Common designation for size (e.g., 55-gallon) |
| <u>CONTAINER</u> Int. Vol/Ctnr | TRU waste sites | Internal volume of empty waste container |
| <u>CONTAINER</u> Liner Material | TRU waste sites | Type of material that a liner is constructed from (e.g., HDPE) |
| <u>CONTAINER</u> Number Stored | TRU waste sites | Number of containers stored as of last data call (for Revision 1 = end of 1993) |
| <u>CONTAINER</u> Number Projected | TRU waste sites | Number of containers projected to be produced from 1994– 2022 |

**Table 3-1. SOURCES OF INFORMATION USED IN
WASTE STREAM PROFILES (continued)**

| Information Field | Source of Information | Explanation |
|---|------------------------------------|---|
| MATERIAL PARAMETERS | TRU waste sites | Record the "Upper Limit"; "Lower Limit"; and "Average" in kg/m ³ for each waste material parameter, if known |
| <u>STORED TRU WASTE AND ESTIMATED RATES OF WASTE GENERATION</u> | TRU waste sites | Provides estimate of stored volumes of waste at the "End of 1992"; "End of 1993" and estimated projections for waste generation. Information is recorded for waste stream volumes as stored or generated and in terms of "final volume" for shipment to WIPP. |
| <u>TYPICAL ISOTOPIC COMPOSITION</u> | TRU waste sites | Provides estimate of "typical" radionuclide concentration expected in waste stream in a curies/m ³ basis; if concentrations are unknown, only isotopes may be listed. |
| TYPICAL EPA CODES APPLICABLE | MWIR or TRU generator/storage site | Identifies the applicable EPA codes for waste for as it exists at sites;. |
| <u>COMMENTS</u> | TRU waste sites | Lists comments/assumptions on the container information provided by TRU waste sites. |
| <u>FOOTNOTES</u> | WTWBIR | Explain data provided by TRU waste generating/storage sites and/or list assumptions made by the WTWBIR. |

The WMC is located on the first page of each waste stream profile. The assignment of the WMC is based on DOE guidance document (DOE, 1993a).

For the purpose of this document, TRU waste generator/storage sites were requested to provide WMCGs for final waste forms; that is, after the sites process, treat, or repackage the waste. The WMCG is indicated on page 1 of the waste stream profile. For most waste stream profiles, the TRU waste generator/storage sites have provided estimates of the waste material parameters (e.g., an INEL waste stream profile is used for illustrative purposes in Figure 3-1). However, in some cases the TRU waste generator/storage sites were unable to provide waste material parameter values for some waste streams. This resulted in two possible changes to the overall methodology presented in this chapter:

- In many cases the TRU waste generator/storage site could categorize the waste stream profile into one of the final 11 WIPP WMCGs (Table 1-2) but could not give any waste material parameter information. In these cases, the WTWBIR assumes the same range and average waste material parameters for the particular WIPP waste profile. For example, if a salt waste stream did not contain any waste material parameter information, but has been

identified by a TRU waste generator/storage site as being a salt waste form, then the volume of that waste stream was added to the total volume of all other salt waste streams.

- In a few cases, TRU waste generator/storage sites were unable to categorize a TRU waste stream into one of the final WIPP WMCGs (Table 1-2). In these cases the waste stream profile is placed in the "unknown" category. The "unknown" waste streams are documented as part of the WIPP inventory, but are not used in any of the scaling of CH-TRU waste volumes necessary to fill WIPP to its design capacity. "Unknown" wastes will have to be characterized and may require treatment prior to emplacement in WIPP.

The TRU waste generator/storage sites have identified several waste streams that are regulated under the Toxic Substances Control Act (TSCA) (i.e., containing asbestos or polychlorinated biphenyls [PCBs]). Because the concentration of the asbestos and/or PCBs is unknown, it is assumed that these waste streams cannot be accepted at WIPP under the proposed draft WIPP RCRA Part B Permit Application. These waste streams are summarized in Table 3-2 and are not included in the WTWBIR.

3.2 SITE-SPECIFIC WASTE PROFILE METHODOLOGY

Waste streams at each TRU waste generator/storage site with similar WMCs can be grouped together into WMCGs (Table 1-2) for a site-specific waste profile. The methodology for grouping waste streams from two different generator/storage sites is shown in Figure 3-2. The grouping of individual waste stream profiles into a site-specific waste profile is based on the similar physical and chemical properties of the waste streams and how that information is used in the SPM and PA models. In the example in Figure 3-2, due to their similar mechanical properties, concrete waste, glass waste, firebrick waste, and ceramic waste mainly influence the estimation of porosity and permeability in the SPM/PA calculations. Therefore, the three waste streams at DOE TRU Waste Site #1 and the two at DOE TRU Waste Site #2 can be grouped together at each site based on similar physical and chemical properties and placed into the site-specific waste profile "inorganic non-metal" waste, with the WMCG defined in Table 1-2.

A site-specific waste profile is developed at each of the TRU waste generator/storage sites for each of the WMCGs that have individual waste streams at the site. These site-specific waste profiles provide a roll-up of the waste material parameter and volume information found in the waste stream profiles for each site. Since there are 11 WMCGs, there are a maximum of 11 possible CH-TRU and 11 possible RH-TRU site-specific waste profiles at any generator/storage site; however, most sites have fewer profiles due to differences in waste segregation practices. An example site-specific waste profile is provided in Figure 3-3. Table 3-3 lists the sources of information for site-specific waste profiles. All the site-specific waste profiles for TRU waste are provided in Appendix B.

3.3 WIPP WASTE PROFILE METHODOLOGY

3.3.1 Introduction and Methodology

The WIPP waste profiles are the highest tier of information in the WTWBIR. Site-specific waste profiles with the same WMCGs are combined across the TRU waste generator/storage sites into what is defined as an overall WIPP waste profile.

TABLE 3-2. TOXIC SUBSTANCES CONTROL ACT (TSCA) TRU WASTE

| WIPP ID | WASTE STREAM NAME | ASBESTOS | PCBs |
|---------|---|----------|------|
| IN-W309 | Absorbed Organic Liquids | No | Yes |
| MD-W002 | Absorbed Aqueous Liquids | No | Yes |
| LL-T005 | HEPA filters | Yes | No |
| MD-M001 | Asbestos Debris | Yes | No |
| MD-T013 | Leaded gloves/aprons | No | Yes |
| MD-T008 | Uncategorized plastics/rubber debris | No | Yes |
| MD-T012 | Uncategorized heterogeneous debris | Yes | No |
| RL-M005 | TRU Mixed Inorganic Homogeneous Solids with Mercury | No | Yes |
| RL-M021 | TRU Mixed Inorganic Debris PCBs with Mercury | No | Yes |
| RL-M022 | TRU Mixed Leaded Gloves/Aprons PCBs with Mercury | No | Yes |
| RL-M023 | TRU Mixed Organic Debris PCBs with IGN, CORR, REAC | No | Yes |
| RL-M024 | TRU Mixed Organic Labpacks with PCBs | No | Yes |
| RL-T030 | Non-mixed Inorganic Debris with PCBs | No | Yes |

As described in Sections 3.1 and 3.2, each waste stream from each TRU waste generator/storage site is defined in a waste stream profile, then grouped by site WMCGs into site-specific waste profiles. These site-specific waste profiles are then rolled-up into WIPP waste profiles by combining identical WMCGs from all the TRU waste generator/storage sites. For example, all site-specific waste profiles for "inorganic non-metal" waste are grouped together to generate the WIPP waste profile, "inorganic non-metal" waste. The WIPP waste profiles are presented in Figures 3-4 through 3-23 at the end of this chapter.

3.3.2 WIPP Waste Profile Roll-Ups

To illustrate the methodology for grouping similar site-specific waste profiles into WIPP waste profiles, the WIPP waste profile for "inorganic non-metal" waste (exemplified in Figure 3-2) is provided in Figure 3-8. As with site-specific waste profiles, there can be a maximum of 11 possible WIPP waste profiles for CH-TRU and 11 possible WIPP waste profiles for RH-TRU

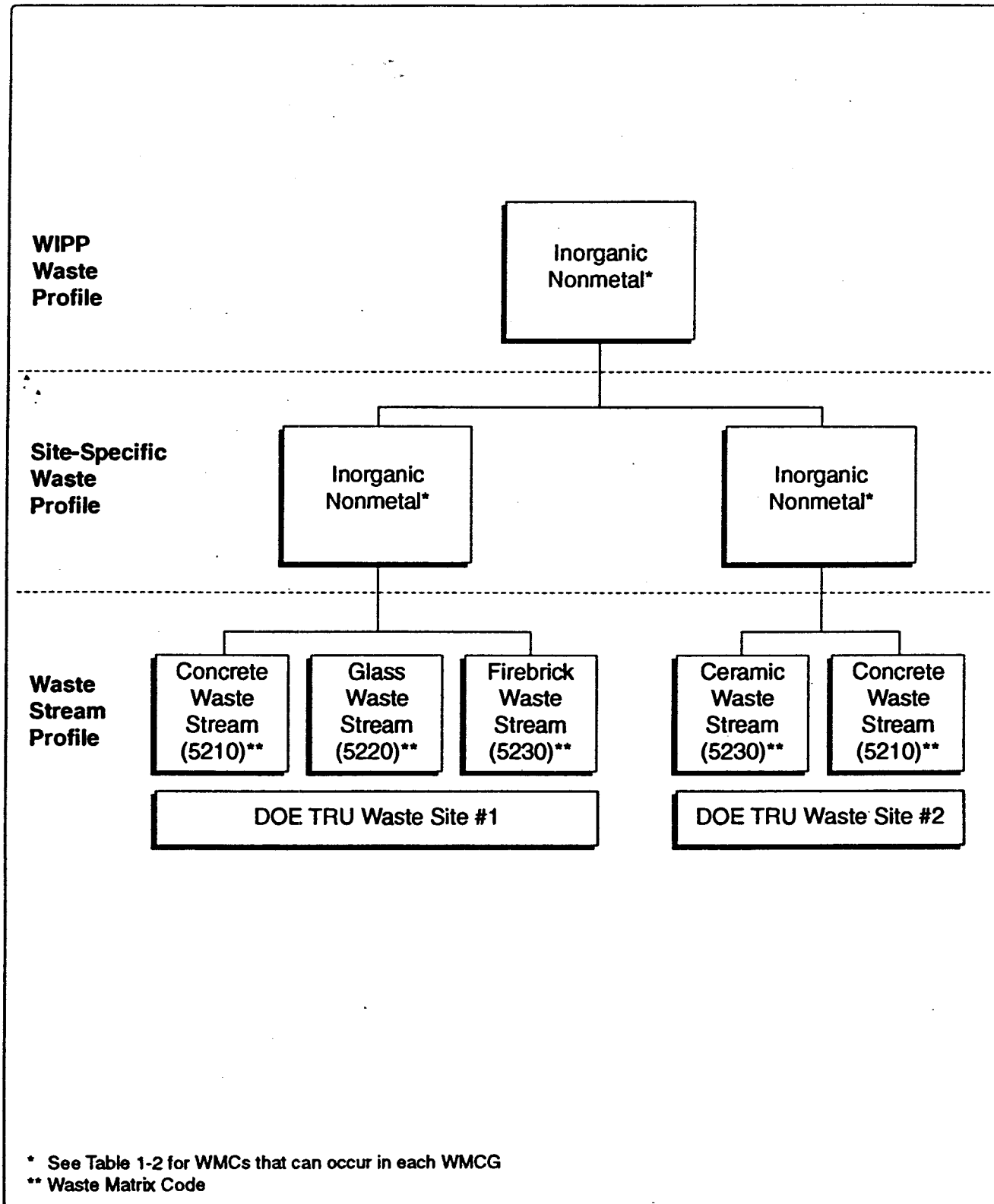


Figure 3-2. Schematic of Waste Stream Profile Methodology.

Site-Specific Contact Handled Waste Profiles

| Site Name: INEL | | | |
|--|------------------------------------|-----------------------|----------------------------------|
| Final Waste Form: Heterogeneous | | | |
| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total per Stream (m3)</u> |
| IN-W169 | 4331 | 0 | 4331 |
| IN-W170 | 0.44 | 1 | 1.44 |
| IN-W171 | 3.6 | 0 | 3.6 |
| IN-W172 | 165.57 | 0 | 165.57 |
| IN-W186 | 2695.1 | 0 | 2695.1 |
| IN-W189 | 8.2 | 0 | 8.2 |
| IN-W197 | 632.7 | 0 | 632.7 |
| IN-W203 | 71.9 | 0 | 71.9 |
| IN-W204 | 3.2 | 0 | 3.2 |
| IN-W225 | 6.1 | 0 | 6.1 |
| IN-W259 | 58.8 | 0 | 58.8 |
| IN-W265 | 47.8 | 0 | 47.8 |
| IN-W269A | 34.8 | 0 | 34.8 |
| IN-W271 | 0.42 | 0 | 0.42 |
| IN-W281 | 348 | 0 | 348 |
| IN-W283 | 1 | 0 | 1 |
| IN-W285 | 85 | 0 | 85 |
| IN-W289 | 25.4 | 0 | 25.4 |
| IN-W291 | 639 | 0 | 639 |
| IN-W302 | 144.1 | 0 | 144.1 |
| IN-W306.3 | 322.67 | 0 | 322.67 |
| IN-W329 | 1.14 | 0 | 1.14 |
| IN-W334 | 7.48 | 0 | 7.48 |

Figure 3-3; Example of Site Specific Waste Profile

Site-Specific Contact Handled Waste Profiles

| | | | |
|----------------------|---------------|----------|---------------|
| IN-W345 | 14.6 | 0 | 14.6 |
| IN-W351 | 1.48 | 0 | 1.48 |
| Total Volume: | 9649.5 | 1 | 9650.5 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 1634.6 | 38.0 | 0.0 |
| | Aluminum Based | 38.2 | 1.2 | 0.0 |
| | Other Metals | 233.0 | 17.2 | 0.0 |
| | Other Inorganics | 1442.3 | 17.9 | 0.0 |
| Organics | Cellulose | 961.5 | 245.1 | 0.0 |
| | Rubber | 330.0 | 43.7 | 0.0 |
| | Plastics | 887.0 | 148.1 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 144.2 | 0.2 | 0.0 |

Figure 3-3 (cont); Example of Site Specific Waste Profile

**TABLE 3-3. SOURCES OF INFORMATION USED IN
SITE-SPECIFIC WASTE PROFILES**

| Information Field | Source of Information | Explanation |
|---------------------------|---------------------------|--|
| DOE TRU Site | TRU Waste Sites | The code for the DOE site. Codes are as follows: AL - Ames Laboratory AE - Argonne National Laboratory - East AW - Argonne National Laboratory - West BC - Battelle Columbus BT - Bettis Atomic Power Laboratory ET - Energy Technology Engineering Center IN - Idaho National Engineering Laboratory IT - Inhalation Toxicology Research Institute KA - Knolls Atomic Power Laboratory - Schenectady LA - Los Alamos National Laboratory LB - Lawrence Berkeley Laboratory LL - Lawrence Livermore National Laboratory MD - Mound Plant MU - University of Missouri NT - Nevada Test Site OR - Oak Ridge National Laboratory PA - Paducah Gaseous Diffusion Plant PX - Pantex Plant RF - Rocky Flats Environmental Technology Site RL - Richland (Hanford) Site SA - Sandia National Laboratories/NM SR - Savannah River Site WV - West Valley Demonstration Project |
| WMCG | WTWBIR or TRU waste sites | Groups waste streams that have similar chemical and physical properties (see Table 1-2). |
| Waste Stream Volume | TRU waste sites | Provides estimates of retrievably stored, projected, and total volumes of TRU and mixed TRU wastes by waste stream. |
| Waste Material Parameters | TRU waste sites | Provides total density estimates of selected waste materials in a particular WMCG for the entire site. |

waste. Table 3-4 lists the sources of information used for the WIPP waste profiles. Using volumes for all the TRU waste streams (including the mixed and non-mixed TRU waste volumes) in the WTWBID, a disposal inventory of TRU waste has been developed using the methodology described in this and the preceding sections. This inventory is presented in Table 3-5 (by WMCGs) and depicts both the anticipated and disposal inventory volumes.

**TABLE 3-4. SOURCES OF INFORMATION USED
IN WIPP WASTE PROFILES**

| Information Field | Source of Information | Explanation |
|--------------------------------|---------------------------|--|
| Waste Matrix Code Group (WMCG) | WTWBIR or TRU waste sites | Groups waste streams that have similar chemical and physical properties (Table 1-2) |
| DOE Site Volumes | TRU waste sites | Provides estimates of retrievably stored, projected, and total volumes of TRU and TRU mixed wastes by DOE site |
| Waste Material Parameters | TRU waste sites | Provides weight estimates of selected waste materials in a particular WMCG for the DOE Complex |

The anticipated CH-TRU inventory volumes are the sum of the "stored" and "projected" volumes in Table 3-5. The procedure to scale to the disposal inventory is summarized below:

- The target design volume of CH-TRU waste beyond that identified by the generator/storage sites is decreased by the "unknown" waste volume ($176,000 - 1700 = 176,000$ [there is no significant increase due to rounding]).

The "unknown" volume of waste in Table 3-5 is subtracted from the stored inventory and from the projected inventory.

- The "unknown" waste will have to be added back into the total scaled inventory because it is assumed that this waste will be characterized and then shipped to WIPP.
- Applying a modified version of the formula given in Section 2.3:

$$\frac{1.76 \times 10^5 - 7.13 \times 10^4}{5.1 \times 10^4} = 2.05 \text{ (scaling factor)}$$

(modified design inventory) – (modified stored inventory)
(modified projected inventory)

- Multiply the CH-TRU waste projected inventory volumes by the scaling factor 2.05 for all the WMCGs, except for the "unknown" waste and add the stored volumes (which results in the numbers in the "Disposal Inventory" column of Table 3-5).
- Add the CH-TRU waste volumes in the fourth column, including the "unknown" waste, to attain the estimated WIPP disposal inventory volume).

The CH-TRU waste stream volume on a system-wide WMCG basis is increased by 42 percent to account for the difference between the anticipated inventory and the repository design limit.

A similar methodology has been developed to scale the RH-TRU inventory. The anticipated RH-TRU inventory volumes are the sum of the "stored" and "projected" volumes in Table 3-5. The procedure to scale to the disposal inventory is summarized below:

- The target design volume of RH-TRU waste beyond that identified by the generator/storage sites is decreased by the "unknown" waste volume (7080 - 35 = 7045).

The "unknown" volume of waste in Table 3-5 is subtracted from the stored inventory and from the projected inventory.

- The "unknown" waste will have to be added back into the total scaled inventory because it is assumed that this waste will be characterized and then shipped to WIPP.
- Applying a modified version of the formula given in Section 2.3:

$$\frac{7045 \text{ (modified design inventory)} - 1158 \text{ (modified stored inventory)}}{3595 \text{ (modified projected inventory)}} = 1.64 \text{ (scaling factor)}$$

- Multiply the RH-TRU waste projected inventory volumes by the scaling factor 1.64 for all the WMCGs, except for the "unknown" waste and add the stored volumes (which results in the numbers in the "Disposal Inventory" column of Table 3-5).
- Add the RH-TRU waste volumes in the fourth column, including the "unknown" waste, to attain the estimated WIPP disposal inventory volume).

The RH-TRU waste stream volume on a system-wide WMCG basis is increased by 48 percent to account for the difference between the anticipated inventory and the repository design limit.

Table 3-5

TRANSURANIC WASTE DISPOSAL INVENTORY FOR WIPP**Contact Handled Waste****(Cubic Meters)**

| Waste Matrix Groups | Stored Volumes | Projected Volumes | Anticipated Volumes | WIPP Disposal Volumes |
|--------------------------------|-----------------------|--------------------------|----------------------------|------------------------------|
| Combustible | 7.1E+03 | 2.7E+04 | 3.4E+04 | 6.2E+04 |
| Filter | 4.3E+02 | 1.1E+03 | 1.5E+03 | 2.6E+03 |
| Graphite | 6.7E+02 | 4.3E+01 | 7.1E+02 | 7.6E+02 |
| Heterogeneous | 3.0E+04 | 4.6E+03 | 3.5E+04 | 3.9E+04 |
| Inorganic Non-metal | 1.2E+03 | 3.2E+02 | 1.5E+03 | 1.8E+03 |
| Lead/Cadmium Metal Waste | 5.6E+01 | 1.3E+02 | 1.8E+02 | 3.1E+02 |
| Salt Waste | 3.3E+01 | 6.0E+01 | 9.2E+01 | 1.5E+02 |
| Soils | 3.7E+02 | 4.5E+02 | 8.3E+02 | 1.3E+03 |
| Solidified Inorganics | 1.7E+04 | 8.0E+03 | 2.5E+04 | 3.4E+04 |
| Solidified Organics | 1.5E+03 | 3.0E+02 | 1.8E+03 | 2.1E+03 |
| Uncategorized Metal | 1.2E+04 | 8.6E+03 | 2.1E+04 | 3.0E+04 |
| Unknown | 1.7E+03 | 0.0E+00 | 1.7E+03 | 1.7E+03 |
| Total CH Volumes | 7.3E+04 | 5.1E+04 | 1.2E+05 | 1.8E+05 |
| Remote Handled Waste | | | | |
| Combustible | 1.5E+01 | 3.2E+00 | 1.8E+01 | 2.0E+01 |
| Filter | 8.9E-01 | 2.1E+00 | 3.0E+00 | 4.3E+00 |
| Heterogeneous | 4.4E+02 | 3.3E+03 | 3.8E+03 | 5.9E+03 |
| Lead/Cadmium Metal Waste | 0.0E+00 | 6.0E+00 | 6.0E+00 | 9.8E+00 |
| Salt Waste | 0.0E+00 | 2.8E+00 | 2.8E+00 | 4.6E+00 |
| Solidified Inorganics | 6.1E+02 | 1.7E+02 | 7.9E+02 | 9.0E+02 |
| Uncategorized Metal | 8.8E+01 | 8.6E+01 | 1.7E+02 | 2.3E+02 |
| Unknown | 1.1E+01 | 2.4E+01 | 3.5E+01 | 3.5E+01 |
| Total RH Volumes | 1.2E+03 | 3.6E+03 | 4.8E+03 | 7.1E+03 |
| Total TRU Waste Volumes | 7.4E+04 | 5.4E+04 | 1.3E+05 | 1.8E+05 |

WIPP Contact Handled Waste Profiles**Final Waste Form: Combustible**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 670.90 | 0.00 | 670.90 |
| LANL | 1768.33 | 2464.60 | 4232.93 |
| MOUND | 5.61 | 0.00 | 5.61 |
| HANFORD | 526.48 | 12269.03 | 12795.51 |
| LLNL | 48.88 | 372.32 | 421.20 |
| SRS | 4066.80 | 11962.50 | 16029.30 |
| Total Volume | 7087.00 | 27068.45 | 34155.45 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 1048.3 | 41.8 | 0.0 |
| | Aluminum Based | 1048.3 | 2.5 | 0.0 |
| | Other Metals | 474.5 | 3.0 | 0.0 |
| | Other Inorganics | 200.0 | 2.6 | 0.0 |
| Organics | Cellulose | 961.5 | 288.0 | 0.0 |
| | Rubber | 629.0 | 33.0 | 0.0 |
| | Plastics | 850.5 | 90.0 | 0.0 |
| Solidified Materials | Inorganic | 100.0 | 0.1 | 0.0 |
| | Organic | 100.0 | 0.1 | 0.0 |
| Soils | | 192.7 | 2.1 | 0.0 |

Figure 3 - 4
WIPP CH-TRU Waste Profile for Final Waste Form Combustible

WIPP Contact Handled Waste Profiles**Final Waste Form: Filter**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 323.56 | 0.00 | 323.56 |
| RFP | 103.96 | 1087.59 | 1191.55 |
| Total Volume | 427.52 | 1087.59 | 1515.11 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 595.3 | 6.7 | 0.0 |
| | Aluminum Based | 440.7 | 11.9 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 500.0 | 72.9 | 0.0 |
| Organics | Cellulose | 496.1 | 15.9 | 0.0 |
| | Rubber | 11.3 | 0.6 | 0.0 |
| | Plastics | 596.6 | 21.2 | 0.0 |
| Solidified Materials | Inorganic | 427.6 | 42.6 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 5
WIPP CH-TRU Waste Profile for Final Waste Form Filter

WIPP Contact Handled Waste Profiles**Final Waste Form: Graphite**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 650.70 | 0.00 | 650.70 |
| RFP | 18.06 | 43.40 | 61.46 |
| Total Volume | 668.76 | 43.40 | 712.16 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 17.3 | 0.7 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.3 | 0.0 | 0.0 |
| | Other Inorganics | 468.0 | 237.1 | 16.9 |
| Organics | Cellulose | 9.8 | 3.8 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 51.4 | 4.3 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 6
WIPP CH-TRU Waste Profile for Final Waste Form Graphite

WIPP Contact Handled Waste Profiles

Final Waste Form: Heterogeneous

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| LBL | 0.84 | 4.42 | 5.26 |
| INEL | 9649.50 | 1.00 | 9650.50 |
| ORNL | 672.98 | 263.90 | 936.88 |
| HANFORD | 8568.55 | 827.16 | 9395.71 |
| NTS | 619.50 | 0.00 | 619.50 |
| KAPL | 2.40 | 0.00 | 2.40 |
| MOUND | 0.42 | 0.00 | 0.42 |
| BT | 0.00 | 123.82 | 123.82 |
| ETEC | 1.66 | 5.20 | 6.86 |
| PANTEX | 0.62 | 0.00 | 0.62 |
| RFP | 312.86 | 804.58 | 1117.44 |
| SRS | 10132.20 | 2563.60 | 12695.80 |
| SNL/NM | 8.04 | 7.00 | 15.04 |
| ANL-W | 0.00 | 3.36 | 3.36 |
| MU | 0.06 | 1.60 | 1.66 |
| Total Volume | 29969.63 | 4605.64 | 34575.27 |

Figure 3 - 7
WIPP CH-TRU Waste Profile for Final Waste Form Heterogeneous

WIPP Contact Handled Waste Profiles

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 1716.4 | 168.4 | 0.0 |
| | Aluminum Based | 512.0 | 30.5 | 0.0 |
| | Other Metals | 850.0 | 5.0 | 0.0 |
| | Other Inorganics | 2100.0 | 16.9 | 0.0 |
| Organics | Cellulose | 961.5 | 301.7 | 0.0 |
| | Rubber | 681.8 | 39.7 | 0.0 |
| | Plastics | 887.0 | 123.6 | 0.0 |
| Solidified Materials | Inorganic | 177.0 | 2.9 | 0.0 |
| | Organic | 400.0 | 0.2 | 0.0 |
| Soils | | 865.8 | 2.7 | 0.0 |

Figure 3 - 7
WIPP CH-TRU Waste Profile for Final Waste Form Heterogeneous

WIPP Contact Handled Waste Profiles**Final Waste Form: Inorganic Non-metal**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 1052.89 | 0.00 | 1052.89 |
| RFP | 110.68 | 318.68 | 429.36 |
| Total Volume | 1163.57 | 318.68 | 1482.25 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 23.8 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 13.1 | 0.2 | 0.0 |
| | Other Inorganics | 1250.0 | 214.3 | 0.0 |
| Organics | Cellulose | 850.0 | 41.9 | 0.0 |
| | Rubber | 8.7 | 0.4 | 0.0 |
| | Plastics | 69.9 | 13.6 | 0.0 |
| Solidified Materials | Inorganic | 69.9 | 3.7 | 0.0 |
| | Organic | 8.3 | 0.0 | 0.0 |
| Soils | | 865.8 | 0.4 | 0.0 |

Figure 3 - 8
WIPP CH-TRU Waste Profile for Final Waste Form Inorganic Non-metal

WIPP Contact Handled Waste Profiles**Final Waste Form: Lead/Cadmium Metal Waste**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| ANL-E | 1.10 | 0.00 | 1.10 |
| ANL-W | 0.02 | 2.48 | 2.50 |
| ETEC | 0.21 | 0.00 | 0.21 |
| RFP | 51.87 | 124.18 | 176.05 |
| HANFORD | 3.13 | 0.29 | 3.42 |
| Total Volume | 56.33 | 126.95 | 183.28 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 256.1 | 0.6 | 0.0 |
| | Aluminum Based | 27.8 | 0.1 | 0.0 |
| | Other Metals | 1438.3 | 45.3 | 0.0 |
| | Other Inorganics | 370.1 | 166.3 | 0.0 |
| Organics | Cellulose | 264.0 | 7.8 | 0.0 |
| | Rubber | 217.3 | 98.5 | 0.0 |
| | Plastics | 86.7 | 15.4 | 0.0 |
| Solidified Materials | Inorganic | 237.0 | 2.5 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 77.0 | 0.4 | 0.0 |

Figure 3 - 9
WIPP CH-TRU Waste Profile for Final Waste Form Lead/Cadmium Metal Waste

WIPP Contact Handled Waste Profiles

Final Waste Form: Salt Waste

| <u>Site</u> | | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|--|------------------------------------|-----------------------|-------------------|
| RFP | | 9.45 | 56.60 | 66.05 |
| INEL | | 22.91 | 0.00 | 22.91 |
| LLNL | | 0.62 | 2.91 | 3.54 |
| Total Volume | | 32.98 | 59.51 | 92.50 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 100.0 | 20.1 | 0.0 |
| | Aluminum Based | 80.0 | 0.2 | 0.0 |
| | Other Metals | 212.0 | 8.4 | 0.0 |
| | Other Inorganics | 719.1 | 239.2 | 2.9 |
| Organics | Cellulose | 50.0 | 1.0 | 0.0 |
| | Rubber | 20.0 | 0.0 | 0.0 |
| | Plastics | 100.0 | 1.9 | 0.0 |
| Solidified Materials | Inorganic | 10.0 | 0.0 | 0.0 |
| | Organic | 10.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 10
WIPP CH-TRU Waste Profile for Final Waste Form Salt Waste

WIPP Contact Handled Waste Profiles**Final Waste Form: Soils**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| HANFORD | 111.69 | 309.27 | 420.96 |
| INEL | 3.80 | 0.00 | 3.80 |
| MOUND | 146.88 | 0.00 | 146.88 |
| LANL | 109.37 | 144.60 | 253.97 |
| Total Volume | 371.74 | 453.87 | 825.61 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 38.8 | 1.4 | 0.0 |
| | Aluminum Based | 38.8 | 0.3 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 33.9 | 0.0 | 0.0 |
| Organics | Cellulose | 67.3 | 7.2 | 0.0 |
| | Rubber | 210.4 | 1.8 | 0.0 |
| | Plastics | 132.2 | 32.9 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 1600.0 | 644.4 | 17.8 |

Figure 3 - 11
WIPP CH-TRU Waste Profile for Final Waste Form Soils

WIPP Contact Handled Waste Profiles

Final Waste Form: Solidified Inorganics

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| SRS | 0.04 | 0.00 | 0.04 |
| ANL-E | 23.05 | 1.12 | 24.17 |
| RFP | 228.63 | 2988.11 | 3216.74 |
| PA | 3.45 | 0.00 | 3.45 |
| ORNL | 110.00 | 0.00 | 110.00 |
| LANL | 4848.38 | 2059.03 | 6907.41 |
| MOUND | 7.28 | 0.00 | 7.28 |
| HANFORD | 1.46 | 2924.76 | 2926.22 |
| INEL | 12164.28 | 0.00 | 12164.28 |
| LLNL | 13.30 | 66.15 | 79.45 |
| AMES LAB | 0.00 | 0.10 | 0.10 |
| Total Volume | 17399.87 | 8039.27 | 25439.14 |

Material Parameters (Kg/m3)

| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|-----------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 153.9 | 9.5 | 0.0 |
| | Aluminum Based | 153.9 | 1.1 | 0.0 |
| | Other Metals | 20.0 | 0.4 | 0.0 |
| | Other Inorganics | 1122.0 | 106.4 | 0.0 |
| Organics | Cellulose | 100.0 | 0.9 | 0.0 |
| | Rubber | 20.0 | 0.8 | 0.0 |
| | Plastics | 100.0 | 3.4 | 0.0 |
| Solidified Materials | Inorganic | 2180.0 | 634.7 | 0.0 |
| | Organic | 1357.0 | 12.8 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 12
WIPP CH-TRU Waste Profile for Final Waste Form Solidified Inorganics

WIPP Contact Handled Waste Profiles**Final Waste Form: Solidified Organics**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| RFP | 132.80 | 48.82 | 181.62 |
| INEL | 912.60 | 0.00 | 912.60 |
| ANL-E | 0.03 | 0.00 | 0.03 |
| SRS | 404.85 | 240.70 | 645.55 |
| HANFORD | 2.17 | 15.25 | 17.42 |
| Total Volume | 1452.45 | 304.77 | 1757.21 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 728.3 | 340.8 | 0.0 |
| Organics | Cellulose | 42.9 | 0.2 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 121.1 | 3.1 | 0.0 |
| Solidified Materials | Inorganic | 528.8 | 34.4 | 0.0 |
| | Organic | 1072.0 | 398.4 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 13
WIPP CH-TRU Waste Profile for Final Waste Form Solidified Organics

WIPP Contact Handled Waste Profiles**Final Waste Form: Uncategorized Metal**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 7564.09 | 0.00 | 7564.09 |
| ANL-E | 4.96 | 0.56 | 5.52 |
| MOUND | 102.28 | 0.00 | 102.28 |
| RFP | 164.82 | 429.50 | 594.32 |
| LANL | 4134.80 | 3006.17 | 7140.97 |
| LLNL | 144.33 | 247.00 | 391.33 |
| HANFORD | 103.35 | 4890.95 | 4994.30 |
| Total Volume | 12218.62 | 8574.18 | 20792.80 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 2096.0 | 129.1 | 0.0 |
| | Aluminum Based | 915.3 | 12.7 | 0.0 |
| | Other Metals | 1057.7 | 146.5 | 0.0 |
| | Other Inorganics | 812.5 | 11.2 | 0.0 |
| Organics | Cellulose | 500.0 | 14.0 | 0.0 |
| | Rubber | 245.6 | 1.0 | 0.0 |
| | Plastics | 750.8 | 13.7 | 0.0 |
| Solidified Materials | Inorganic | 300.0 | 0.0 | 0.0 |
| | Organic | 300.0 | 0.0 | 0.0 |
| Soils | | 48.7 | 0.2 | 0.0 |

Figure 3 - 14
WIPP CH-TRU Waste Profile for Final Waste Form Uncategorized Metal

WIPP Contact Handled Waste Profiles**Final Waste Form: Unknown**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 1655.91 | 0.00 | 1655.91 |
| Total Volume | 1655.91 | 0.00 | 1655.91 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 15
WIPP CH-TRU Waste Profile for Final Waste Form Unknown

WIPP Remote Handled Waste Profiles**Final Waste Form: Combustible**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| LANL | 14.84 | 3.16 | 18.00 |
| Total Volume | 14.84 | 3.16 | 18.00 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 265.2 | 257.7 | 254.0 |
| | Aluminum Based | 0.4 | 0.4 | 0.4 |
| | Other Metals | 89.7 | 18.8 | 18.8 |
| | Other Inorganics | 6.8 | 6.8 | 6.8 |
| Organics | Cellulose | 68.7 | 64.0 | 59.2 |
| | Rubber | 1.2 | 1.1 | 1.0 |
| | Plastics | 5.7 | 5.3 | 4.9 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 16
WIPP RH-TRU Waste Profile for Final Waste Form Combustible

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WIPP Remote Handled Waste Profiles

Final Waste Form: Filter

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| ANL-W | 0.89 | 2.09 | 2.98 |
| Total Volume | 0.89 | 2.09 | 2.98 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 241.2 | 232.5 | 214.9 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 8.8 | 8.8 | 8.8 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 17
WIPP RH-TRU Waste Profile for Final Waste Form Filter

WIPP Remote Handled Waste Profiles**Final Waste Form: Heterogeneous**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 13.63 | 2.80 | 16.43 |
| ANL-W | 0.59 | 0.08 | 0.67 |
| BCLDP | 0.00 | 71.00 | 71.00 |
| BT | 0.00 | 1.56 | 1.56 |
| HANFORD | 33.16 | 2973.71 | 3006.87 |
| SRS | 0.00 | 63.92 | 63.92 |
| KAPL | 11.23 | 25.23 | 36.46 |
| ORNL | 382.81 | 182.70 | 565.51 |
| Total Volume | 441.43 | 3321.00 | 3762.42 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 1716.4 | 108.5 | 0.0 |
| | Aluminum Based | 263.0 | 23.0 | 0.0 |
| | Other Metals | 500.0 | 0.2 | 0.0 |
| | Other Inorganics | 2000.0 | 38.6 | 0.0 |
| Organics | Cellulose | 961.5 | 34.3 | 0.0 |
| | Rubber | 163.5 | 5.9 | 0.0 |
| | Plastics | 550.0 | 30.7 | 0.0 |
| Solidified Materials | Inorganic | 15.0 | 0.1 | 0.0 |
| | Organic | 3.0 | 0.0 | 0.0 |
| Soils | | 193.0 | 2.3 | 0.0 |

Figure 3 - 18
WIPP RH-TRU Waste Profile for Final Waste Form Heterogeneous

WIPP Remote Handled Waste Profiles**Final Waste Form: Lead/Cadmium Metal Waste**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| ANL-W | 0.00 | 0.36 | 0.36 |
| INEL | 0.00 | 5.60 | 5.60 |
| Total Volume | 0.00 | 5.96 | 5.96 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 256.1 | 12.0 | 0.0 |
| | Aluminum Based | 27.8 | 1.3 | 0.0 |
| | Other Metals | 109.6 | 43.6 | 0.0 |
| | Other Inorganics | 754.8 | 165.7 | 1.2 |
| Organics | Cellulose | 45.3 | 7.7 | 0.0 |
| | Rubber | 190.4 | 92.3 | 0.0 |
| | Plastics | 67.6 | 15.1 | 0.0 |
| Solidified Materials | Inorganic | 619.2 | 5.9 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 1.2 | 0.4 | 0.0 |

Figure 3 - 19
WIPP RH-TRU Waste Profile for Final Waste Form Lead/Cadmium Metal Waste

WIPP Remote Handled Waste Profiles**Final Waste Form: Salt Waste**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 0.00 | 2.80 | 2.80 |
| Total Volume | 0.00 | 2.80 | 2.80 |

| <u>Material Parameters (Kg/m3)</u> | | | | |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 28.6 | 20.1 | 3.7 |
| | Aluminum Based | 3.1 | 0.2 | 0.0 |
| | Other Metals | 16.9 | 8.4 | 1.6 |
| | Other Inorganics | 591.1 | 239.2 | 106.3 |
| Organics | Cellulose | 3.8 | 1.0 | 0.0 |
| | Rubber | 0.8 | 0.0 | 0.0 |
| | Plastics | 5.2 | 1.9 | 1.1 |
| Solidified Materials | Inorganic | 0.4 | 0.0 | 0.0 |
| | Organic | 0.4 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 20
WIPP RH-TRU Waste Profile for Final Waste Form Salt Waste

WIPP Remote Handled Waste Profiles**Final Waste Form: Solidified Inorganics**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 2.10 | 0.00 | 2.10 |
| ORNL | 611.00 | 174.00 | 785.00 |
| Total Volume | 613.10 | 174.00 | 787.10 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 528.8 | 1.1 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 1057.7 | 792.2 | 173.1 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 21
WIPP RH-TRU Waste Profile for Final Waste Form Solidified Inorganics

WIPP Remote Handled Waste Profiles**Final Waste Form: Uncategorized Metal**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 4.11 | 5.60 | 9.71 |
| LANL | 76.46 | 79.50 | 155.96 |
| ANL-W | 7.17 | 1.36 | 8.53 |
| Total Volume | 87.74 | 86.46 | 174.20 |

| <u>Material Parameters (Kg/m3)</u> | | | | |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 380.3 | 226.8 | 0.0 |
| | Aluminum Based | 141.4 | 2.2 | 0.0 |
| | Other Metals | 913.5 | 279.0 | 0.0 |
| | Other Inorganics | 34.6 | 7.7 | 0.0 |
| Organics | Cellulose | 68.7 | 1.8 | 0.0 |
| | Rubber | 18.0 | 0.1 | 0.0 |
| | Plastics | 82.1 | 1.6 | 0.0 |
| Solidified Materials | Inorganic | 3.7 | 0.0 | 0.0 |
| | Organic | 3.7 | 0.0 | 0.0 |
| Soils | | 2.9 | 0.0 | 0.0 |

Figure 3 - 22
WIPP RH-TRU Waste Profile for Final Waste Form Uncategorized Metal

WIPP Remote Handled Waste Profiles

Final Waste Form: Unknown

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 11.13 | 0.00 | 11.13 |
| ANL-W | 0.00 | 23.74 | 23.74 |
| Total Volume | 11.13 | 23.74 | 34.87 |

| <u>Material Parameters (Kg/m3)</u> | | | | |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 23
WIPP RH-TRU Waste Profile for Final Waste Form Unknown

4. WIPP DISPOSAL RADIONUCLIDE INVENTORY

4.1 INTRODUCTION

The TRU waste generator/storage sites were requested in the Revision 1 data call to submit estimates of the radionuclide inventory on a waste stream basis. Most sites complied with the data request, but many waste streams submitted to the WTWBID did not contain this information. Due to the short timeframe given the TRU waste generator/storage sites for the Revision 1 data call, sufficient time was not available to derive the data to support each waste stream. The radionuclide data provided on a waste stream basis in Appendix A of the WTWBIR is currently for information purposes only.

4.2 METHODOLOGY

Since the waste-stream specific radionuclide data is insufficient to derive a radionuclide inventory, the site-wide radionuclide inventories reported in the Integrated Data Base (IDB) were used. The most recent IDB (DOE, 1994b) will be used which contains unpublished radionuclide data by site for stored TRU wastes as of December 31, 1993 (Appendix I).

There are still some volume differences at a TRU waste generator/storage site level between the IDB and the WTWBIR (see Section 1.5.4). Closure between the two data sets should be achieved with the Revision 2 WTWBIR data call and publication of Revision 2 of the WTWBIR. Therefore, the volume data from the IDB database (DOE, 1994b) has been used to make the estimates of stored and projected volumes used in deriving the radionuclide information. By using the volume and radionuclide data from the IDB database, there exists one internally consistent set of data for estimating the radionuclide inventory.

IDB radionuclide data is only available for stored TRU waste. Therefore, this historical radionuclide data will also be used to make estimates of the projected radionuclide inventories and for any necessary scaling. Until estimates are available from the TRU waste generator/storage sites on projected radionuclide inventories, the IDB represents the only comprehensive database.

The WIPP radionuclide disposal inventory for CH-TRU waste has been calculated as follows:

- The stored and projected volumes from the IDB (DOE, 1994b) data have been used for the volume estimates and are included in Table 4-1.
- The radionuclide data included as part of the data submitted for the IDB (DOE, 1994b) represents the stored waste only. Appendix E provides the radionuclide inventory by TRU waste site for the stored inventories listed in Table 4-1. These numbers have been decayed to December 1993, using the Radioactive Decay and Accumulation Code (RADAC) System (DOE, 1994d).
- For a particular site and radionuclide, divide the reported inventory for that radionuclide from the IDB (Appendix E) by the volume of stored waste at that site from the IDB (Table 4-1). This results in a curies/m³ estimate for all reported radionuclides at each site.
- The projected volumes of waste are assumed to have the same radionuclide concentrations on a cubic meter basis as the stored waste at each site.

- Since Bettis Atomic Power Laboratory (BT) and Ames Laboratory (AL) reported no existing CH-TRU waste volume inventory, there is no radionuclide inventory for these sites in the IDB. The projected volumes from these two sites, BT (123.5 m³), and AL (0.09 m³) have been grouped with the INEL projected CH-TRU waste and assumed to have the same isotopic composition.
- The total volume of projected CH-TRU waste from the IDB in Table 4-1, if added to the stored waste volumes from the IDB, exceeds the capacity of WIPP (176,000 m³)
- To calculate the radionuclide inventory the total projected CH-TRU waste is adjusted as follows:
 - Maximum design capacity for CH-TRU = 176,000 m³
 - Stored CH-TRU volume = 104,000 m³
 - Allowable projected volume = (176,000 - 104,000) × 10⁵ m³ = 72,000 m³
 - Projected waste adjustment factor =

$$\frac{\text{Allowable projected volume}}{\text{Projected volume reported by sites}} = \frac{72,000 \text{ m}^3}{64,600 \text{ m}^3} = 1.11$$

- Therefore, the projected radionuclide inventory for each radionuclide at each site is calculated as follows:

$$\text{Stored Radionuclide Inventory} + \left(\text{Concentration of radionuclide in stored waste in curies/m}^3 \times \text{Volume of projected waste at site} \times 0.65 \right) = \text{Total CH-TRU inventory for radionuclide at that site}$$

The building of the WIPP radionuclide disposal inventory for RH-TRU waste has been calculated similar to the CH-TRU radionuclide inventory, with the exception of the following:

- Three RH-TRU waste streams that are projected waste streams only were submitted with no accompanying isotopic information: RL-M201, RL-T202, and SR-T001. THESE WASTE STREAMS, WHICH ACCOUNT FOR THE PROJECTED HANFORD AND SRS RH-TRU WASTE VOLUMES, HAVE BEEN OMITTED FROM THE RADIONUCLIDE INVENTORY CALCULATIONS due to the lack of radionuclide information. The RH-TRU projected volumes in the Draft Revision 10 IDB (Appendix I) include both the reported volumes in the two projected Hanford RH-TRU waste streams and the "suspect" volumes reported in the comment field of the two Hanford waste streams (RL-M201 and RL-T202 Appendix A).
- BT did not report stored RH-TRU inventories and the projected inventories have been omitted because no radionuclide information is available.
- The sum of the stored and projected volumes of RH-TRU waste from the TRU waste sites is less than the design capacity of WIPP (7080 m³) for RH-TRU waste.

- To calculate the radionuclide inventory the total projected RH-TRU waste is adjusted as follows:

- Design capacity for RH-TRU = 7080 m³
- Stored RH-TRU volume = 941 m³
- Therefore the needed projected waste volume is:

$$7080 \text{ m}^3 - 941 \text{ m}^3 = 6139 \text{ m}^3$$

- The projected RH-TRU waste volume (excluding the 2 RL and SR waste streams) is 957 m³
- The projected waste volume must be increase by the following factor to "scale" to fill the RH-TRU design capacity:

$$\frac{6139 \text{ m}^3}{957 \text{ m}^3} = 6.41$$

- Therefore, the projected radionuclide inventory for each radionuclide at each site is calculated as follows:

$$\text{Stored Radionuclide Inventory} + \left(\text{Concentration of radionuclide in stored waste in curies/m}^3 \times \text{Volume of projected waste at site} \times 6.41 \right) = \text{Total RH-TRU inventory for radionuclide at that site}$$

Table 4-2 represents the total radionuclide inventory for CH-TRU and RH-TRU wastes as derived from the Revision 10 IDB database, including any adjustment needed to the projected volumes of waste in order to fill the WIPP to the maximum CH-TRU and RH-TRU design limit.

A comparison of the disposal radionuclide inventories in Revision 0 and in Revision 1 of the WTWBIR shows large changes. Listed below are the dominant reasons for these changes:

- The total radionuclide inventory for CH-TRU waste is much higher than that included in the Revision 0 of the WTWBIR. This is primarily due to two changes:
 - The SR has reported a large volume of CH-TRU projected waste in the IDB ($\approx 62,000 \text{ m}^3$), which was previously reported as "unknown." With the historically high Pu-238 content, this considerably raises the total curies in the CH-TRU inventory.
 - During the calculations for the Revision 0 inventory, the "projected" part (1994–2022) of the CH-TRU radionuclide inventory was inadvertently left out of the totals reported, causing the inventory numbers to be low ($\approx 25\%$). This has been corrected in this inventory definition.

- The total radionuclide inventory for RH-TRU waste is also much higher than that included in the Revision 0 of the WTWBIR. During calculation of the RH-TRU inventory the volume defined by the sites included more waste than the repository could hold. During those calculations, a misunderstanding occurred about the fact that the IDB radionuclide numbers only covered the "stored" part of the inventory. This caused the Revision 0 WTWBIR reported RH-TRU inventory to be low by a factor of approximately 3 – 4. This has been corrected in this inventory definition.
- Oak Ridge National Laboratory (ORNL) has reported a very conservative inventory for U-235 in RH-TRU waste (≈ 367 curies before scaling). In order to provide a less conservative estimate of the U-235 inventory, an anticipated transportation requirement of the RH-TRU cask has been imposed.

The new estimate for U-235 in ORNL RH-TRU waste has been calculated from the anticipated initial transportation limit in the RH-TRU cask of 325 grams (DOE, 1991) of Pu-239 fissile gram equivalent (FGE). Assuming a 1:1 equivalence of U-235 FGE (as required by the TRUPACT-II SARP; Nuclear Packaging, 1991) to Pu-239, this provides a bounding limit of 325 grams of U-235/canister \times 7955 canisters \times 2.19×10^{-6} curies/gram = 5.66 curies of U-235 in RH-TRU waste inventory. This number has been substituted in Table 4-2 to replace the overly conservative data reported by ORNL.

Table 4-1. CH-TRU and RH-TRU IDB Waste Inventories

| CH-TRU Site | Stored IDB-ORNL (m³) | Projected IDB-ORNL (m³) |
|--------------------|--|---|
| AE | 29.1 | 180.0 |
| AL | 0.0 | 0.06 |
| BT | 0.0 | 123.5 |
| ET | 1.9 | 10.4 |
| IN ¹ | 64774.0 | 0.0 |
| KA | 0.0 | 0.0 |
| LA | 10810.9 | 14475.0 |
| LB | 0.9 | 2.7 |
| LL | 235.0 | 2442.3 |
| MD | 11.9 | 0.0 |
| MU | 0.1 | 0.0 |
| NT | 607.1 | 0.0 |
| OR | 2015.2 | 654.7 |
| PA | 4.3 | 0.0 |
| PX | 0.6 | 0.0 |
| RF | 1040.0 | 3765.4 |
| RL ² | 15608.9 | 29198.0 |
| SA | 0.9 | 36.0 |
| SR ⁴ | 8925.9 | 13700.0 |
| Sum CH-TRU | 104066.7 | 64588.06 |
| RH-TRU Site | Stored IDB-ORNL (m³) | Projected IDB-ORNL (m³) |
| AE | 1.7 | 45.9 |
| BT | 0.0 | 1.54 |
| IN | 79.8 | 162.0 |
| KA | 2.4 | 25.0 |
| LA | 91.3 | 280.0 |
| OR | 563.9 | 442.3 |
| RL | 201.0 | 41232.0* |
| SA | 0.9 | 7.0* |
| SR ⁴ | 0.0 | 35.9* |
| Sum RH-TRU | 941.0³ | 956.74 |

* Excluded from the IDB-based RH-TRU radionuclide inventory rollups because no radionuclide information was submitted.

1. 40% of this stored inventory assumed to be low-level waste.
2. 50% of this stored inventory assumed to be low-level waste.
3. Does not include 5.3 m³ of RH-TRU at NTS which is anticipated to be CH-TRU after repackaging.
4. The IDB volumes for SRS projected CH-TRU and RH-TRU waste have been corrected since issuance of the Draft Revision 10 IDB (Appendix I).

Table 4-2. Disposal Radionuclide Inventory

| Nuclide | Total CH | Total RH |
|---------|----------|----------|
| AC-225 | 2.03E+00 | 3.28E-01 |
| AC-227 | 6.55E-01 | 1.52E-02 |
| AC-228 | 5.27E-01 | 4.08E-03 |
| AG-109M | 4.85E+01 | NR |
| AG-110 | 5.61E-06 | 1.07E-05 |
| AG-110M | 4.21E-04 | 8.06E-04 |
| AM-241 | 2.23E+05 | 5.30E+02 |
| AM-242 | 4.93E-02 | NR |
| AM-242M | 4.96E-02 | NR |
| AM-243 | 2.94E+01 | 1.22E-02 |
| AM-245 | 9.07E-09 | 2.52E-14 |
| AT-217 | 2.03E+00 | 3.28E-01 |
| BA-137M | 5.03E+03 | 3.10E+05 |
| BI-210 | 1.01E+00 | 4.09E-11 |
| BI-211 | 6.57E-01 | 1.46E-02 |
| BI-212 | 2.77E+01 | 9.03E+00 |
| BI-213 | 2.03E+00 | 3.28E-01 |
| BI-214 | 5.84E+00 | 7.23E-10 |
| BK-249 | 6.25E-04 | 1.74E-09 |
| BK-250 | 2.35E-06 | NR |
| C-14 | 1.83E+01 | 1.51E+02 |
| CD-109 | 4.85E+01 | NR |
| CD-113M | 4.65E-05 | 2.36E-05 |
| CE-144 | 8.22E+01 | 5.58E+02 |
| CF-249 | 1.56E+00 | 8.11E-02 |
| CF-250 | 3.54E-01 | NR |

NR = Not reported by sites.

Table 4-2. Disposal Radionuclide Inventory (continued)

| Nuclide | Total CH | Total RH |
|---------|-----------|----------|
| CF-251 | 3.93E-03 | NR |
| CF-252 | 1.85E+02 | 5.11E+01 |
| CM-242 | 1.48E-02 | NR |
| CM-243 | 1.33E+00 | 2.01E+03 |
| CM-244 | 5.40E+03 | 1.07E+04 |
| CM-245 | 5.16E+01 | 1.32E-05 |
| CM-246 | 1.10E-01 | NR |
| CM-247 | 2.98E-09 | NR |
| CM-248 | 5.06E-02 | 2.34E-03 |
| CO-58 | 5.50E-05 | 7.92E-07 |
| CO-60 | 1.53E+02 | 1.08E+04 |
| CR-51 | NR | 2.54E-31 |
| CS-134 | 5.88E+00 | 2.15E+03 |
| CS-135 | 7.90E-03 | 4.58E-03 |
| CS-137 | 5.32E+03 | 3.28E+05 |
| ES-254 | 2.35E-06 | NR |
| EU-150 | 3.65E-05 | NR |
| EU-152 | 7.41E+00 | 5.28E+04 |
| EU-154 | 3.05E+01 | 2.76E+04 |
| EU-155 | 4.14E+01 | 6.78E+03 |
| FE-55 | 3.296E-05 | 1.44E+01 |
| FE-59 | 1.96E-02 | 4.04E-19 |
| FR-221 | 2.03E+00 | 3.28E-01 |
| FR-223 | 9.04E-03 | 2.10E-04 |
| H-3 | 9.64E-01 | 8.23E+01 |
| I-129 | 1.28E-09 | NR |

NR = Not reported by sites.

Table 4-2. Disposal Radionuclide Inventory (continued)

| Nuclide | Total CH | Total RH |
|---------|----------|----------|
| KR-85 | 2.24E-01 | 9.58E+01 |
| MN-54 | 1.12E-02 | 2.76E+00 |
| NB-95 | 4.96E-01 | 9.90E+00 |
| NB-95M | 1.66E-03 | 3.41E-02 |
| NI-59 | 3.38E-03 | NR |
| NI-63 | 4.19E-01 | 5.03E+01 |
| NP-237 | 8.82E+01 | 1.18E-02 |
| NP-238 | 2.48E-04 | NR |
| NP-239 | 2.94E+01 | 1.22E-02 |
| NP-240 | 1.10E-09 | 1.78E-13 |
| NP-240M | 1.00E-06 | 1.62E-10 |
| PA-231 | 4.08E-03 | 1.78E-01 |
| PA-233 | 3.32E+01 | 1.18E-02 |
| PA-234 | 2.44E-02 | 1.70E-02 |
| PA-234M | 1.88E+01 | 1.31E+01 |
| PB-209 | 2.03E+00 | 3.28E-01 |
| PB-210 | 1.01E+00 | 4.09E-11 |
| PB-211 | 6.57E-01 | 1.46E-02 |
| PB-212 | 2.77E+01 | 9.03E+00 |
| PB-214 | 5.84E+00 | 7.23E-10 |
| PD-107 | 1.17E-03 | 6.77E-04 |
| PM-147 | 1.26E+03 | 4.10E+03 |
| PO-210 | 8.92E-01 | 3.05E-11 |
| PO-211 | 1.79E-03 | 3.98E-05 |
| PO-212 | 1.78E+01 | 5.78E+00 |
| PO-213 | 1.99E+00 | 3.21E-01 |

NR = Not reported by sites.

Table 4-2. Disposal Radionuclide Inventory (continued)

| Nuclide | Total CH | Total RH |
|---------|----------|----------|
| PO-214 | 5.84E+00 | 7.23E-10 |
| PO-215 | 6.57E-01 | 1.46E-02 |
| PO-216 | 2.77E+01 | 9.03E+00 |
| PO-218 | 5.84E+00 | 7.23E-10 |
| PR-144 | 8.22E+01 | 5.58E+02 |
| PU-236 | 1.69E-02 | NR |
| PU-238 | 1.89E+06 | 3.53E+03 |
| PU-239 | 3.85E+05 | 6.41E+03 |
| PU-240 | 7.22E+04 | 1.74E+02 |
| PU-241 | 1.01E+06 | 9.06E+02 |
| PU-242 | 1.27E+03 | 1.48E-02 |
| PU-243 | 2.98E-09 | NR |
| PU-244 | 1.00E-06 | 1.62E-10 |
| RA-223 | 6.57E-01 | 1.46E-02 |
| RA-224 | 2.77E+01 | 9.03E+00 |
| RA-225 | 2.04E+00 | 3.31E-01 |
| RA-226 | 5.84E+00 | 7.23E-10 |
| RA-228 | 5.27E-01 | 4.08E-03 |
| RH-106 | 4.02E+01 | 8.42E+02 |
| RN-219 | 6.57E-01 | 1.46E-02 |
| RN-220 | 2.77E+01 | 9.03E+00 |
| RN-222 | 5.84E+00 | 7.23E-10 |
| RU-106 | 4.02E+01 | 8.42E+02 |
| SB-125 | 1.58E+01 | 2.46E+03 |
| SB-126 | 2.13E-03 | 1.23E-03 |
| SB-126M | 1.52E-02 | 8.80E-03 |

NR = Not reported by sites.

Table 4-2. Disposal Radionuclide Inventory (continued)

| Nuclide | Total CH | Total RH |
|---------|----------|----------|
| SE-79 | 6.86E-03 | 3.97E-03 |
| SM-151 | 2.50E+01 | 1.42E+01 |
| SN-119M | 6.80E-03 | 1.37E-02 |
| SN-121M | 4.82E-01 | 2.69E-01 |
| SN-126 | 1.52E-02 | 8.80E-03 |
| SR-90 | 4.07E+03 | 6.68E+05 |
| TA-182 | NR | 1.72E-04 |
| TC-99 | 2.46E+01 | 2.28E-01 |
| TE-125M | 6.55E-04 | 1.01E+03 |
| TE-127 | 3.07E-02 | 1.13E-01 |
| TE-127M | 3.15E-02 | 1.15E-01 |
| TH-227 | 6.56E-01 | 1.48E-02 |
| TH-228 | 2.77E+01 | 9.04E+00 |
| TH-229 | 2.05E+00 | 3.36E-01 |
| TH-230 | 4.90E-02 | 8.79E-07 |
| TH-231 | 2.88E+00 | 2.21E+03 |
| TH-232 | 6.07E-01 | 7.09E-03 |
| TH-234 | 1.88E+01 | 1.31E+01 |
| TL-207 | 6.56E-01 | 1.45E-02 |
| TL-208 | 9.96E+00 | 3.24E+00 |
| TL-209 | 4.39E-02 | 7.08E-03 |
| TL-210 | 1.23E-03 | 1.52E-13 |
| U-232 | 2.63E+01 | 1.16E+01 |
| U-233 | 1.38E+03 | 8.57E+02 |
| U-234 | 2.50E+02 | 4.18E-02 |
| U-235 | 2.88E+00 | 5.66E+00 |

NR = Not reported by sites.

Table 4-2. Disposal Radionuclide Inventory (continued)

| Nuclide | Total CH | Total RH |
|---------|----------|----------|
| U-236 | 1.34E-01 | 4.11E-05 |
| U-237 | 2.47E+01 | 2.22E-02 |
| U-238 | 1.88E+01 | 1.31E+01 |
| U-240 | 1.00E-06 | 1.62E-10 |
| Y-90 | 4.07E+03 | 6.68E+05 |
| ZN-65 | 1.21E-08 | NR |
| ZR-93 | 8.87E-02 | 5.14E-02 |
| ZR-95 | 2.24E-01 | 4.60E+00 |
| Total | 3.60E+06 | 2.11E+06 |

NR = Not reported by sites.

5. WASTE MATERIAL PARAMETERS

5.1 INTRODUCTION

Some waste materials that occur in TRU waste may degrade over the 10,000-year regulatory period and estimates of masses/volume are needed for performance modeling (Table 1-1). Some of these waste materials may produce gas by either chemical, microbial, or radiolytic processes (WIPP PA, 1993). These types of processes need to be evaluated as part of the WIPP SPM and PA modeling effort to analyze their impact on repository behavior.

5.2 PARAMETER DESCRIPTION

This chapter identifies and defines the waste material parameters to be evaluated in performance assessment calculations. The same methodology used for defining waste stream profiles and combining them into site-specific and WIPP waste profiles is used to develop a disposal inventory for WIPP by waste material parameters (see Figure 3-2). Waste material parameter information is provided for each waste stream profile by the TRU waste generator/storage sites (Figure 1-2). In those cases where waste material parameter information could not be provided by the TRU waste generator/storage sites, an alternative methodology was adopted as described in Section 3.1.3. This waste material parameter information is used to estimate the anticipated WIPP inventory, which is then scaled to obtain the repository design limit (disposal inventory), if needed. This inventory is presented as a weighted average with a maximum and minimum expected weight/volume for each waste material parameter.

The waste material parameter information, which is provided by the TRU waste generator/storage sites, consists of 10 waste material parameters and additional packaging materials that are direct inputs into the SPM and PA models. These are presented below.

Inorganics

- Iron-based metals/alloys – This designation is meant to include iron and steel alloys in the waste and does not include the waste container materials.
- Aluminum-based metals/alloys – Aluminum or aluminum-based alloys in the waste materials.
- Other Metals – All other metals found in the waste materials (e.g., copper, lead, zirconium, tantalum, etc.). The lead portion of lead rubber gloves/aprons is also included in this category.
- Other Inorganic Materials – Include inorganic non-metal waste materials such as concrete, glass, firebrick, ceramics, sand, and inorganic sorbents.

Organics

- Cellulosics – Includes those materials generally derived from high polymer plant carbohydrates. Examples are paper, cardboard, kimwipes, wood, cellophane, cloth, etc.
- Rubber – Includes natural or manmade elastic latex materials. Examples are Hypalon®, neoprene, surgeons' gloves, leaded-rubber gloves (rubber part only), etc.

- Plastics – Includes generally manmade materials, often derived from petroleum feedstock. Examples are polyethylene, polyvinylchloride, Lucite, Teflon, etc.

Solidified Materials

- Inorganic Matrix – This includes any homogenous materials consisting of sludge or aqueous-based liquids that are solidified with cement, Envirostone[®], or other solidification agents. Examples are wastewater treatment sludge, cemented aqueous liquids, and inorganic particulates, etc.
- Organic Matrix – This includes cemented organic resins, solidified organic liquids, and sludges.

Soils

- Generally consists of naturally occurring soils that have been contaminated with inorganic waste materials.

Packaging Materials

The TRU waste generator/storage sites have been asked to define waste streams in each waste stream profile expressed as final waste form and volumes in containers that are currently approved for shipment. Listed below are the currently approved CH-TRU packaging configurations for TRUPACT-II (DOE, 1991) and anticipated approved RH-TRU packaging configurations (DOE, 1991):

- TRUPACT-II
 - 55-gallon drum
 - Standard Waste Box (SWB)
 - 55-gallon drums overpacked in SWB.
- RH-TRU cask (anticipated acceptable packaging configurations for the RH-TRU cask)
 - RH-TRU canister
 - three 55-gallon or 30-gallon drums overpacked in a RH-TRU canister.

In cases where the sites defined a type of waste container, but not the weight/volume of the packaging, assumptions were made about the weight of the containers in order to include these estimates as part of the overall inventory destined for WIPP. If overpacking a waste container was necessary for transport in a shipping cask, overpacking was assumed. The densities assumed are included as part of the "TRU system-wide data assumptions" included in Section 1.5.

- Steel – The weight of the steel part of the packaging from container information provided by the TRU waste generator/storage sites. Any necessary overpacking is included in the weight.
- Plastics – The weight of any plastic packaging submitted by the TRU sites. When weight of a rigid liner is not given a 90-mil HDPE liner is assumed.

- Lead – The weight of the Pb shielding in a RH canister is assumed if not provided by the TRU waste sites. The weight is included in the "Packaging Material Assumptions" in Chapter 1.5.3.

5.3 METHODOLOGY

The rollups of waste material parameters by WMCGs or by site use the volumes from the WTWBID. The roll ups by WMCGs or by site require combining data from several WTWBID waste streams. The averages for the material parameters are calculated from the average densities provided by the TRU waste generator/storage sites modified by the WTWBID volume fractions and summed as follows:

$$\begin{array}{l} \text{Average Density} \\ \text{of waste material} \\ \text{parameter} \end{array} = \text{Average Density}_i \times \frac{\begin{array}{c} \text{(Volume WTWBIR} \\ \text{Stream}_i) \end{array}}{\begin{array}{c} \text{(Total Volume of} \\ \text{WMCG)} \end{array}} + \dots$$

where i is an index representing individual waste streams of the same WMCG

The minimum density is chosen as the smallest minimum density of a particular waste material parameter in the WTWBID waste streams in a particular site-specific rollup. The maximum density is chosen in a similar manner, except that the largest maximum density was chosen.

In many cases, the TRU waste generator/storage sites did not have data for minimum and maximum percentages, even though average percentages are provided. In these cases, for rollup purposes only, the minimum is assumed to be zero and the maximum is assumed to be equal to the average. This ensures that the calculated and rolled up maximum densities are greater than the average densities. However, the maximum density may not be a true maximum but the maximum average density (see Chapter 7 for further WTWBID information).

5.4 WIPP WASTE MATERIAL PARAMETER ROLLUPS

The waste material parameters that are inputs into the SPM process and PA models are presented in Table 5-1 for CH-TRU waste and Table 5-2 for RH-TRU waste. These tables represent the WIPP disposal inventory of waste material parameters. These waste material parameters are the final rollups of the WIPP waste profiles in Figures 3-4 to 3-23.

5.5 UTILIZATION OF WASTE MATERIAL PARAMETER DATA IN APPLICATIONS

The waste material parameter data presented in Tables 5-1 and 5-2 must be used with certain limitations. If the "average" weight/volume (density) composition of CH-TRU and RH-TRU wastes in terms of the waste material parameters is needed then the middle column of Tables 5-1 and 5-2 labelled "Average" should be used in the calculations. If the task requires a distribution of values then the "Maximum" and "Minimum" columns should be used in conjunction with the "Average" column with the following limitations:

Table 5-1

WIPP CH-TRU Waste Material Parameter Disposal Inventory

| | | (Kg/m3) | | |
|-----------------------------|-------------------------|----------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 2.1E+03 | 8.3E+01 | 0.0E+00 |
| | Aluminum Based | 1.0E+03 | 1.2E+01 | 0.0E+00 |
| | Other Metals | 1.4E+03 | 2.7E+01 | 0.0E+00 |
| | Other Inorganics | 2.1E+03 | 3.9E+01 | 0.0E+00 |
| Organics | Cellulose | 9.6E+02 | 1.7E+02 | 0.0E+00 |
| | Rubber | 6.8E+02 | 2.1E+01 | 0.0E+00 |
| | Plastics | 8.9E+02 | 6.3E+01 | 0.0E+00 |
| Solidified Materials | Inorganic | 2.2E+03 | 1.3E+02 | 0.0E+00 |
| | Organic | 1.4E+03 | 8.4E+00 | 0.0E+00 |
| Soils | | 1.6E+03 | 5.7E+00 | 0.0E+00 |
| Container Materials | | | | |
| | Steel | | 137 | |
| | Plastic/ Liners | | 33 | |

Table 5-2

WIPP RH-TRU Waste Material Parameter Disposal Inventory

| | | (Kg/m3) | | |
|-----------------------------|-------------------------|----------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 1.7E+03 | 9.4E+01 | 0.0E+00 |
| | Aluminum Based | 2.6E+02 | 1.8E+01 | 0.0E+00 |
| | Other Metals | 9.1E+02 | 1.0E+01 | 0.0E+00 |
| | Other Inorganics | 2.0E+03 | 3.1E+01 | 0.0E+00 |
| Organics | Cellulose | 9.6E+02 | 2.7E+01 | 0.0E+00 |
| | Rubber | 1.9E+02 | 4.8E+00 | 0.0E+00 |
| | Plastics | 5.5E+02 | 2.4E+01 | 0.0E+00 |
| Solidified Materials | Inorganic | 1.1E+03 | 1.3E+02 | 0.0E+00 |
| | Organic | 3.7E+00 | 1.7E-03 | 0.0E+00 |
| Soils | | 1.9E+02 | 1.8E+00 | 0.0E+00 |
| Container Materials | | | | |
| | Steel | | 447 | |
| | Plastic/Liners | | 3.2 | |
| | Lead | | 465 | |
| | Steel Plug | | 2145 | |

- The sum of all the waste material parameters in the "average" column represents the "average" weight of a cubic meter of CH-TRU or RH-TRU expected at WIPP. For instance, the "average" cubic meter of CH-TRU waste expected at WIPP is (see Table 5-1):

$$559.5 \text{ kg/m}^3 \text{ CH-TRU waste} + 173 \text{ kg/m}^3 \text{ of packaging} = 732.5 \text{ kg/m}^3$$

- The weight of packaging is not expected to vary, so if any "sampling" of distributions of densities is required, the sampling should only be on the waste part of the above equation.
- If sampling of the waste material parameters is needed, the sum of the densities of all waste material parameters sampled for any iteration **SHOULD NOT EXCEED THE AVERAGE DENSITY OF THE WASTE AS DEFINED IN THE "AVERAGE" COLUMN SUMMATION.** That is, one cannot sample on the upper range for all waste material parameters or sample all waste material parameters at the lower end of the range. By default, if some waste material parameters are sampled at higher values than the average some will have to be sampled at lower values than average so that the density of the waste always remains the same (sum of the "average" column).

The same sampling methodology, if needed, should be used for the RH-TRU waste as reported in Table 5-2.

TO OBTAIN THE TOTAL WASTE MATERIAL PARAMETER WEIGHTS FOR THE DISPOSAL INVENTORY, USERS OF THE DATA SHOULD MULTIPLE THE AVERAGE DENSITIES OF THE WASTE MATERIAL PARAMETERS FOR CH-TRU (TABLE 5-1) AND RH-TRU (TABLE 5-2) BY THE DESIGN BASIS VOLUME.

For example:

The expected (average) CH-TRU inventory of combustibles for WIPP is (Table 5-1):

$$170 \text{ kg/m}^3 \times 176,000 \text{ m}^3 \text{ (design basis)} = 29,900,000 \text{ kg combustibles}$$

For steel in CH-TRU waste:

$$83 \text{ kg/m}^3 \text{ (waste)} + 140 \text{ kg/m}^3 \text{ (container)} = 223 \text{ kg/m}^3$$

$$223 \text{ kg/m}^3 \times 176,000 \text{ m}^3 = 3,900,000 \text{ kg steel}$$

6. STORED AND PROJECTED CH-TRU AND RH-TRU INVENTORIES BY SITE

As described in Chapter 3, each waste stream from each waste generating/storage site is characterized in a waste stream profile (Appendix A). These waste stream profiles are rolled up by WMCGs for each generator/storage site. Summary tables of contact-handled and remote-handled waste volumes are provided in Tables 6-1 and 6-2. Summary profiles of waste volumes by WMCG for each site are provided in Tables 6-3 through 6-22.

TRANSURANIC WASTE DISPOSAL INVENTORY BY SITE

| Contact Handled Waste | | (Cubic Meters) | |
|-------------------------|-----------------|-------------------|---------------------|
| Storage/Generator Site | Stored Volumes* | Projected Volumes | Anticipated Volumes |
| AMES LAB | 0.0E+00 | 1.0E-01 | 1.0E-01 |
| ANL-E | 2.9E+01 | 1.7E+00 | 3.1E+01 |
| ANL-W | 2.0E-02 | 5.8E+00 | 5.9E+00 |
| BT | 0.0E+00 | 1.2E+02 | 1.2E+02 |
| ETEC | 1.9E+00 | 5.2E+00 | 7.1E+00 |
| HANFORD | 9.3E+03 | 2.1E+04 | 3.1E+04 |
| INEL | 3.5E+04 | 1.0E+00 | 3.5E+04 |
| KAPL | 2.4E+00 | 0.0E+00 | 2.4E+00 |
| LANL | 1.1E+04 | 7.7E+03 | 1.9E+04 |
| LBL | 8.4E-01 | 4.4E+00 | 5.3E+00 |
| LLNL | 2.1E+02 | 6.9E+02 | 9.0E+02 |
| MOUND | 2.6E+02 | 0.0E+00 | 2.6E+02 |
| MU | 6.0E-02 | 1.6E+00 | 1.7E+00 |
| NTS | 6.2E+02 | 0.0E+00 | 6.2E+02 |
| ORNL | 7.8E+02 | 2.6E+02 | 1.0E+03 |
| PA | 3.5E+00 | 0.0E+00 | 3.5E+00 |
| PANTEX | 6.2E-01 | 0.0E+00 | 6.2E-01 |
| RFP | 1.1E+03 | 5.9E+03 | 7.0E+03 |
| SNL/NM | 8.0E+00 | 7.0E+00 | 1.5E+01 |
| SRS | 1.5E+04 | 1.5E+04 | 2.9E+04 |
| Total CH Volumes | 7.3E+04 | 5.1E+04 | 1.2E+05 |

* A small amount of Hanford stored CH waste (2.0E+02 cubic meters) is expected to be retrieved and packaged as RH waste

Table 6-1: Contact Handled Transuranic Waste Disposal Inventory by Site

TRANSURANIC WASTE DISPOSAL INVENTORY BY SITE

| Remote Handled Waste | | (Cubic Meters) | |
|-------------------------------|-----------------------|--------------------------|----------------------------|
| Storage/Generator Site | Stored Volumes | Projected Volumes | Anticipated Volumes |
| ANL-W | 8.7E+00 | 2.8E+01 | 3.6E+01 |
| BCLDP | 0.0E+00 | 7.1E+01 | 7.1E+01 |
| BT | 0.0E+00 | 1.6E+00 | 1.6E+00 |
| HANFORD | 3.3E+01 | 3.0E+03 | 3.0E+03 |
| INEL | 3.1E+01 | 1.7E+01 | 4.8E+01 |
| KAPL | 1.1E+01 | 2.5E+01 | 3.6E+01 |
| LANL | 9.1E+01 | 8.3E+01 | 1.7E+02 |
| ORNL | 9.9E+02 | 3.6E+02 | 1.4E+03 |
| SRS | 0.0E+00 | 6.4E+01 | 6.4E+01 |
| Total RH Volumes | 1.2E+03 | 3.6E+03 | 4.8E+03 |

Table 6-2: Remote Handled Transuranic Waste Disposal Inventory by Site

SITE TRANSURANIC WASTE VOLUMES

Site Name: AMES LAB**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| <hr/> | | | |
| Contact Handled Waste | | | |
| Solidified Inorganics | 0 | 0.1 | 0.1 |
| Total CH Volumes | <hr/> 0.00 | <hr/> 0.10 | <hr/> 0.10 |

Table 6 - 3; AMES LAB Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: ANL-E**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| <hr/> | | | |
| Contact Handled Waste | | | |
| Lead/Cadmium Metal Waste | 1.1 | 0 | 1.1 |
| Solidified Inorganics | 23.045 | 1.12 | 24.165 |
| Solidified Organics | 0.025 | 0 | 0.025 |
| Uncategorized Metal | 4.96 | 0.56 | 5.52 |
| Total CH Volumes | 29.13 | 1.68 | 30.81 |

Table 6 - 4; ANL-E Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: ANL-W**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| Contact Handled Waste | | | |
| Heterogeneous | 0 | 3.36 | 3.36 |
| Lead/Cadmium Metal Waste | 0.02 | 2.48 | 2.5 |
| Total CH Volumes | 0.02 | 5.84 | 5.86 |
| Remote Handled Waste | | | |
| Filter | 0.89 | 2.09 | 2.98 |
| Heterogeneous | 0.59 | 0.08 | 0.67 |
| Lead/Cadmium Metal Waste | 0 | 0.36 | 0.36 |
| Uncategorized Metal | 7.172 | 1.36 | 8.532 |
| Unknown | 0 | 23.736 | 23.736 |
| Total RH Volumes | 8.65 | 27.63 | 36.28 |

Table 6 - 5; ANL-W Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: BCLDP**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| <hr/> | | | |
| Contact Handled Waste | | | |
| Total CH Volumes | <hr/> | <hr/> | <hr/> |
| Remote Handled Waste | | | |
| Heterogeneous | 0 | 71 | 71 |
| Total RH Volumes | <hr/> | <hr/> | <hr/> |
| | 0.00 | 71.00 | 71.00 |

Table 6 - 6; BCLDP Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: BT**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|---------------|
| Contact Handled Waste | | | |
| Heterogeneous | 0 | 123.816 | 123.816 |
| Total CH Volumes | 0.00 | 123.82 | 123.82 |
| Remote Handled Waste | | | |
| Heterogeneous | 0 | 1.557 | 1.557 |
| Total RH Volumes | 0.00 | 1.56 | 1.56 |

Table 6 - 7; BT Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: ETEC**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| <hr/> | | | |
| Contact Handled Waste | | | |
| Heterogeneous | 1.66 | 5.2 | 6.86 |
| Lead/Cadmium Metal Waste | 0.21 | 0 | 0.21 |
| Total CH Volumes | <hr/> 1.87 | <hr/> 5.20 | <hr/> 7.07 |

Table 6 - 8; ETEC Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: HANFORD**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|-----------------|
| Contact Handled Waste | | | |
| Combustible | 526.48 | 12269.027 | 12795.507 |
| Heterogeneous | 8568.55 | 827.157 | 9395.707 |
| Lead/Cadmium Metal Waste | 3.13 | 0.29 | 3.42 |
| Soils | 111.69 | 309.27 | 420.96 |
| Solidified Inorganics | 1.46 | 2924.759 | 2926.219 |
| Solidified Organics | 2.17 | 15.248 | 17.418 |
| Uncategorized Metal | 103.35 | 4890.948 | 4994.298 |
| Total CH Volumes | 9316.83 | 21236.70 | 30553.53 |
| Remote Handled Waste | | | |
| Heterogeneous | 33.163 | 2973.71 | 3006.873 |
| Total RH Volumes | 33.16 | 2973.71 | 3006.87 |

Table 6 - 9; HANFORD Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: INEL

(Cubic Meters)

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|--------------------|--------------|-----------------|
| Contact Handled Waste | | | |
| Combustible | 670.9 | 0 | 670.9 |
| Filter | 323.56 | 0 | 323.56 |
| Graphite | 650.7 | 0 | 650.7 |
| Heterogeneous | 9649.5 | 1 | 9650.5 |
| Inorganic Non-metal | 1052.89 | 0 | 1052.89 |
| Salt Waste | 22.91 | 0 | 22.91 |
| Soils | 3.8 | 0 | 3.8 |
| Solidified Inorganics | 12164.28 | 0 | 12164.28 |
| Solidified Organics | 912.6 | 0 | 912.6 |
| Uncategorized Metal | 7564.09 | 0 | 7564.09 |
| Unknown | 1655.91 | 0 | 1655.91 |
| Total CH Volumes | 34671.14 | 1.00 | 34672.14 |
| Remote Handled Waste | | | |
| Heterogeneous | 13.634 | 2.8 | 16.434 |
| Lead/Cadmium Metal Waste | 0 | 5.6 | 5.6 |
| Salt Waste | 0 | 2.8 | 2.8 |
| Solidified Inorganics | 2.1 | 0 | 2.1 |
| Uncategorized Metal | 4.11 | 5.6 | 9.71 |
| Unknown | 11.13 | 0 | 11.13 |
| Total RH Volumes | 30.97 | 16.80 | 47.77 |

Table 6 - 10; INEL Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: KAPL**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| Contact Handled Waste | | | |
| Heterogeneous | 2.4 | 0 | 2.4 |
| Total CH Volumes | 2.40 | 0.00 | 2.40 |
| Remote Handled Waste | | | |
| Heterogeneous | 11.23 | 25.23 | 36.46 |
| Total RH Volumes | 11.23 | 25.23 | 36.46 |

Table 6 - 11; KAPL Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: LANL**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|-----------------|
| Contact Handled Waste | | | |
| Combustible | 1768.33 | 2464.6 | 4232.93 |
| Soils | 109.37 | 144.6 | 253.97 |
| Solidified Inorganics | 4848.38 | 2059.03 | 6907.41 |
| Uncategorized Metal | 4134.8 | 3006.17 | 7140.97 |
| Total CH Volumes | 10860.88 | 7674.40 | 18535.28 |
| Remote Handled Waste | | | |
| Combustible | 14.84 | 3.16 | 18 |
| Uncategorized Metal | 76.46 | 79.5 | 155.96 |
| Total RH Volumes | 91.30 | 82.66 | 173.96 |

Table 6 - 12; LANL Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: LBL**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| <hr/> | | | |
| Contact Handled Waste | | | |
| Heterogeneous | 0.84 | 4.42 | 5.26 |
| Total CH Volumes | <hr/> 0.84 | <hr/> 4.42 | <hr/> 5.26 |

Table 6 - 13; LBL Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: LLNL**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|---------------|
| Contact Handled Waste | | | |
| Combustible | 48.882 | 372.32 | 421.202 |
| Salt Waste | 0.624 | 2.912 | 3.536 |
| Solidified Inorganics | 13.303 | 66.148 | 79.451 |
| Uncategorized Metal | 144.326 | 247 | 391.326 |
| Total CH Volumes | 207.14 | 688.38 | 895.52 |

Table 6 - 14; LLNL Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: MOUND**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|---------------|
| Contact Handled Waste | | | |
| Combustible | 5.61 | 0 | 5.61 |
| Heterogeneous | 0.416 | 0 | 0.416 |
| Soils | 146.88 | 0 | 146.88 |
| Solidified Inorganics | 7.28 | 0 | 7.28 |
| Uncategorized Metal | 102.276 | 0 | 102.276 |
| Total CH Volumes | 262.46 | 0.00 | 262.46 |

Table 6 - 15; MOUND Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: MU**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| Contact Handled Waste | | | |
| Heterogeneous | 0.06 | 1.604 | 1.664 |
| Total CH Volumes | 0.06 | 1.60 | 1.66 |

Table 6 - 16; MU Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: NTS**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|---------------|
| Contact Handled Waste | | | |
| Heterogeneous | 619.5 | 0 | 619.5 |
| Total CH Volumes | 619.50 | 0.00 | 619.50 |

Table 6 - 17; NTS Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: ORNL**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|----------------|
| Contact Handled Waste | | | |
| Heterogeneous | 672.98 | 263.9 | 936.88 |
| Solidified Inorganics | 110 | 0 | 110 |
| Total CH Volumes | 782.98 | 263.90 | 1046.88 |
| Remote Handled Waste | | | |
| Heterogeneous | 382.81 | 182.7 | 565.51 |
| Solidified Inorganics | 611 | 174 | 785 |
| Total RH Volumes | 993.81 | 356.70 | 1350.51 |

Table 6 - 18; ORNL Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: PA**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| Contact Handled Waste | | | |
| Solidified Inorganics | 3.45 | 0 | 3.45 |
| Total CH Volumes | 3.45 | 0.00 | 3.45 |

Table 6 - 19; PA Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: PANTEX**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| <hr/> | | | |
| Contact Handled Waste | | | |
| Heterogeneous | 0.624 | 0 | 0.624 |
| Total CH Volumes | 0.62 | 0.00 | 0.62 |

Table 6 - 20; PANTEX Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: **RFP**

(Cubic Meters)

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|--------------------|----------------|----------------|
| Contact Handled Waste | | | |
| Filter | 103.96 | 1087.59 | 1191.55 |
| Graphite | 18.06 | 43.4 | 61.46 |
| Heterogeneous | 312.86 | 804.58 | 1117.44 |
| Inorganic Non-metal | 110.68 | 318.68 | 429.36 |
| Lead/Cadmium Metal Waste | 51.87 | 124.18 | 176.05 |
| Salt Waste | 9.45 | 56.6 | 66.05 |
| Solidified Inorganics | 228.63 | 2988.11 | 3216.74 |
| Solidified Organics | 132.8 | 48.82 | 181.62 |
| Uncategorized Metal | 164.82 | 429.5 | 594.32 |
| Total CH Volumes | 1133.13 | 5901.46 | 7034.59 |

Table 6 - 21; RFP Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: SNL/NM**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| <hr/> | | | |
| Contact Handled Waste | | | |
| Heterogeneous | 8.04 | 7 | 15.04 |
| Total CH Volumes | <hr/> 8.04 | <hr/> 7.00 | <hr/> 15.04 |

Table 6 - 22; SNL/NM Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: SRS**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|-----------------|
| Contact Handled Waste | | | |
| Combustible | 4066.8 | 11962.5 | 16029.3 |
| Heterogeneous | 10132.2 | 2563.6 | 12695.8 |
| Solidified Inorganics | 0.04 | 0 | 0.04 |
| Solidified Organics | 404.85 | 240.7 | 645.55 |
| Total CH Volumes | 14603.89 | 14766.80 | 29370.69 |
| Remote Handled Waste | | | |
| Heterogeneous | 0 | 63.92 | 63.92 |
| Total RH Volumes | 0.00 | 63.92 | 63.92 |

Table 6 - 23; SRS Final Waste Form Volumes

7. WIPP TRANSURANIC WASTE BASELINE INVENTORY DATABASE

A WIPP Transuranic Waste Baseline Inventory Database (WTWBID) has been developed to support the Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report (WTWBIR). This database was used to roll up the waste data and print out the various tables and reports used in the WTWBIR. The database is operated in the Microsoft Access Vs. 2.0 system.

7.1 DATABASE DESCRIPTION

The database actually consists of two databases with essentially the same primary data tables. The first database is WTWBIR.MDB. This database contains the original data submitted by the sites or agreed with the sites through discussions with WTWBIR personnel. This database is used to produce the forms in Appendix A. The second database is called REPORTS.MDB and is used to produce the tables and figures in the rest of the report. There are two databases because the basic data in WTWBIR.MDB must be manipulated to produce rational roll ups of the data for the reports and figures. These manipulations are described in this section of the report.

Each record in the database represents one waste stream as defined by a unique waste stream ID (WIPP_ID). In the case where the WTWBIR waste stream is the same as a waste stream reported in phase 2 of the MWIR, the WIPP_ID is the same as the MWIR ID (UNIQUE_WS). Some streams, primarily non mixed and a few mixed waste streams, were not reported in the MWIR. In these cases, if the site did not assign a proper ID, a WIPP_ID was assigned by the WTWBIR team.

The reports and tables produced for the WTWBIR are produced from different data sorts based on the WTWBIR-ID, Site_Name, Handling and Final_Waste_Form fields. The Site_Name refers to the sites as defined in the field WS_SITE. The Site_Name specifies the site which reported and is typically storing the waste. The generator site may differ from the storage site. The Handling field defines whether the waste is categorized as CH or RH waste. The Final_Waste_Form defines a general grouping based on the physical and chemical properties in the waste stream. These are broader waste matrix code groupings (WMCG) (Table 1-2) based generally on the MWIR treatability groups which are described in the MWIR form instructions. In Revision 0 of the WTWBIR, these Final_Waste_Forms were referred to as Matrix_Names.

The volumes are rolled up from the cumulative stored volumes and projected volumes provided by the sites. The stored volumes are based on the cumulative end of 1993 volumes in the database. Some sites provided stored volumes for 1992 and projected volumes for 1993 while other sites provided stored volumes for 1993. In order to be consistent, the stored volumes for sites that based their stored volumes on 1992 were calculated by adding the 1992 volume to the 1993 projected volume. Projected volumes were calculated by adding the volumes for 1994 through 2022.

In Table 3-5, a column was calculated to match the maximum design capacity of WIPP for CH waste. This was done by increasing all the Final_Waste_Form projected volumes proportionately, except Unknown, so that the total CH volume would equal the maximum WIPP capacity. Additional waste volume was calculated for each waste stream proportionate to the projected volumes for each stream such that the sum of the scaled volumes for contact handled waste equaled 175,600 cubic meters. Enough waste is already identified to fill the WIPP to capacity for remote handled waste.

The other fields used to develop roll ups for the tables in the reports are the waste material parameters. The sites were asked to estimate an average, minimum and maximum concentration of materials in each waste stream. For example, weights of metals such as brass, copper, tantalum and materials simply described as metals were rolled up under the field OM_xxx (where xxx is min, max, or avg) which stands for "Other Metals" (see the data dictionary; Table 7-1). Note that because some materials are described only as metals, aluminum and iron can be in the OM_xxx field as well as in the IB_xxx or AB_xxx fields.

Two categories of sludges and solidified materials are represented by fields. These are solidified inorganic solids (SIM_xxx) and solidified organic solids (SOM_xxx). The particular category into which a sludge or solidified material is placed is determined by the overall matrix of the resulting material after any solidification or stabilization steps. For example, a small amount of organic liquids/sludges solidified in cement would be placed in the solidified inorganics category and a drum of organic based resin beads solidified would be placed in the solidified organics category.

The rest of the fields are reasonably self explanatory, but additional discussion on Cel_xxx, Rub_xxx, and Plas_xxx, may be helpful. Cel_xxx includes all cellulose base materials and will typically include paper, cloth, wood, kimwipes and other materials derived from plant based materials. It is assumed that cloth is plant derived material such as cotton and not plastic based such as rayon or nylon. Rub_xxx consists of rubber based materials. Included in this category are Hypalon®, neoprene, and surgeons gloves. Plas_xxx represents plastics such as Lucite®, polyethylene, Tyvek®, teflon and polyvinyl chloride. Plastic bags are used extensively in packaging the waste and would be included in this category. The plastic drum or container liners were not included in this category and were requested separately.

The parameter information is manipulated so that the waste material parameters can be added up and averaged at WIPP, site and Final Waste Form levels. Waste streams for which no waste parameters are provided or for which average, minimum and maximum parameters are not all provided cannot be rationally averaged and summed. Therefore, in order to calculate averaged parameters from the waste stream data provided, certain manipulations on the data are necessary. These manipulations are summarized below. If the parameters for a particular waste material were incomplete, the following assumptions were used to adjust the data so that rational averages and sums could be accomplished:

- If no minimum was provided, but a maximum was provided, the minimum was assumed to be zero.
- If a maximum was provided, but no average, the average was assumed to be one half the sum of the maximum and minimum.
- If an average was provided but no minimum or maximum, the average was assigned to the minimum and maximum.
- If only a minimum was provided, the minimum was assigned to both the maximum and the average.

For those waste streams that did not have any waste parameter information provided, but which could be assigned to a final waste form, an average set of parameters was calculated and used. This average set of parameters was calculated by volume averaging the parameters provided for other waste streams with the same final waste form.

The data that is printed out on all the tables in the report is based on these calculations and assumptions. The individual stream data printed out in Appendix A is the original unmanipulated data submitted by the generator/storage sites or agreed to by the sites through discussions and questions with the WTWBIR team.

The roll ups of these material parameters for tables in the report by Final_Waste_Form or by site were performed using a volume weighted averaging procedure. The averages for the material parameters for a Final_Waste_Forms (FWF) are calculated as follows:

$$\text{Average Density of FWF parameter}_i = \text{Density of Parameter}_i \times \frac{(\text{Volume in Stream}_i)}{(\text{Total Volume in FWF})} + \dots$$

where i is an index representing individual waste streams of the same FWF.

The minimum density is chosen as the smallest minimum density of a particular material parameter in the WTWBIR streams in a particular Final_Waste_Form. The maximum density is chosen in a similar manner except that the largest maximum density was chosen. Note that the maximum and minimum densities apply to individual containers and cannot be used to directly calculate a maximum and minimum density of particular material parameters for the entire WIPP inventory. Also note, that it is possible, that the maximum density may not be a true maximum but a maximum average density, if a site provided only averages and no maximums and these averages are higher than other sites' maximums.

The amount of and type of materials in the containers and liners was requested separately in the waste stream profiles. Many of the sites did not provide data for final form WIPP approved containers. Some sites provided current containers, some did not provide containers and some provided final form containers. In order to add up packaging materials for the waste as it would arrive at WIPP, standard container configurations were assumed for waste from all sites.

If the site provided final form containers, the final form containers (drums, SWBs, or RH Canisters) were used, but standard liners were assumed. This was done because many sites did not provide liner information and assuming standard liners will generally maximize the amount of liner material.

For CH waste containers, the following assumptions were used:

- If the type of container was unclear, it was assumed to be drums. (This was rare.)
- If drums were reported they are assumed to be WIPP approved drums with rigid liners. Many sites have a mixture of liner types in a stream or are unsure of liners.
- If waste was reported in containers larger than drums, then the waste was divided into (Standard Waste Boxes) SWBs with standard plastic bag liners; using the standard internal volume for SWBs and the reported waste stream volumes to determine the number of SWBs.
- If the waste was reported in a liquid or sludge form (i.e. tanks), it was assumed to be placed in drums with rigid liners. No treatment volume expansion was included unless provided by the site.

For RH waste, the following assumptions were used:

- If the waste was reported in drums, the drums were assumed to be overpacked in RH canisters at 3 drums per canister.
- If the waste was not reported to be in drums, the waste was assumed to be direct loaded into RH canisters; using the standard internal volume for RH canisters and the reported waste stream volumes to determine the number of RH canisters.

Packaging material weights used in the WTWBIR report are shown in the table below:

Table 7-1. Table of Materials for CH and RH Waste Containers
(Weights in kg per container, Volume in m³ per container)

| CH Waste | | | |
|-----------------------------|------------------|---------|-----------------------------------|
| Container Characteristic | Drum | SWB | SWB Overpack ¹ |
| Steel Weight | 27.3 | 290.9 | 400.1 (include. 4 drums |
| Liner Type | Rigid Drum Liner | Bag | Rigid Drum Liners and Bag |
| Liner Material | 90 mil HDPE | Plastic | 90 mil HDPE and Plastic |
| Liner Weight | 7.7 | 2.2 | 33 |
| Volume (Capacity) | 0.208 | 1.89 | 1.89 |
| Payload Volume ² | 0.208 | 1.89 | 0.832 (4 drums) |
| RH Waste | | | |
| Container Characteristics | RH Canister | | RH Canister Overpack ³ |
| Steel Weight | 387.3 | | 469.2 (3 drums) |
| Lead Weight | 413.6 | | 413.6 |
| Steel Plug Weight | 1909.1 | | 1909.1 |
| Liner Type | None | | Rigid Liner in Drums |
| Liner Material | N/A | | 90 mil HDPE |
| Liner Weight | N/A | | 23.1 |
| Volume (Capacity) | 0.89 | | 0.89 |
| Payload Volume ² | 0.89 | | 0.624 (3 drums) |

¹ Four drums overpacked in an SWB

² Payload volume is the actual volume of waste which can be placed in the container.

³ Three drums overpacked in an RH Canister

The tables and reports for the WTWBIR were produced using the facilities provided by the Microsoft Access Vs 2.0 database system. These tables and reports consist primarily of various sorts based on waste streams, final waste forms, sites, etc. and summations of volumes and material parameter weights.

7.2 DATA DICTIONARY

Table 7-2. WTWBID Data Dictionary

| Field/Table Name | Notes | Description |
|---|---|---|
| Table: Container_Data WIPP_ID | Key Field Index Relating from Page_1 data table | The unique waste stream identification number as assigned by the WTWBIR Team |
| MWIR_ID | | The unique waste stream identification number as listed in the Mixed Waste Inventory Report |
| Cont | Key Field to relate to Nuclides data table | Container (SWB, Std Drum, or RH Canister) |
| Counter | | Access 2.0-generated record identifier |
| MWIR_Cont | | The type of container as listed in the MWIR |
| Type/Size | | type and/or size of container |
| Param | | Parameter Information Reported? |
| RAD | | Yes - Isotopes listed; No - None Listed; Quan - Concentrations listed |
| Container Material | | Material of which the waste container is made |
| Ext_Volume | | cubic meters per container |
| Liner_type | | Nomenclature identifying the type and size of liner. |
| Liner_material | | composition of liner |
| Nbr_Stored | | number of this type of container stored. |
| Nbr_Projected | | Total number of this container for this waste stream projected through the life of the WIPP |
| IB_avg | | Iron-based constituents, Average, in kg/m3 |
| IB_min | | Iron-based constituents, Minimum, in kg/m3 |
| IB_max | | Iron-based constituents, Maximum, in kg/m3 |
| AB_avg | | Aluminum-based constituents, Average, in kg/m3 |
| AB_min | | Aluminum-based constituents, Minimum, in kg/m3 |
| AB_max | | Aluminum-based constituents, Maximum, in kg/m3 |
| OM_avg | | Other metals constituents, Average, in kg/m3 |
| OM_min | | Other metals constituents, Minimum, in kg/m3 |
| OM_max | | Other metals constituents, Maximum, in kg/m3 |
| OI_avg | | Other inorganics constituents, Average, in kg/m3 |

Table 7-2. WTWBID Data Dictionary (continued)

| Field/Table Name | Notes | Description |
|------------------------|-------|---|
| OI_Min | | Other inorganics constituents, Minimum, in kg/m3 |
| OI_max | | Other inorganics constituents, Maximum, in kg/m3 |
| Cel_avg | | Cellulosics constituents, Average, in kg/m3 |
| Cel_min | | Cellulosics constituents, Minimum, in kg/m3 |
| Cel_max | | Cellulosics constituents, Maximum, in kg/m3 |
| Rub_avg | | Rubber constituents, Average, in kg/m3 |
| Rub_min | | Rubber constituents, Minimum, in kg/m3 |
| Rub_max | | Rubber constituents, Maximum, in kg/m3 |
| Plas_avg | | Plastic constituents, Average, in kg/m3 |
| Plas_min | | Plastic constituents, Minimum, in kg/m3 |
| Plas_max | | Plastic constituents, Maximum, in kg/m3 |
| SIM_avg | | Solidified Inorganic Materials constituents, Average, in kg/m3 |
| SIM_min | | Solidified Inorganic Materials constituents, Minimum, in kg/m3 |
| SIM_max | | Solidified Inorganic Materials constituents, Maximum, in kg/m3 |
| SOM_avg | | Solidified Organic Materials constituents, Average, in kg/m3 |
| SOM_min | | Solidified Organic Materials constituents, Minimum, in kg/m3 |
| SOM_max | | Solidified Organic Materials constituents, Maximum, in kg/m3 |
| SL_avg | | Soils, Average, kg/m3 |
| SL_min | | Soils, Minimum, kg/m3 |
| SL_max | | Soils, Maximum, kg/m3 |
| PM_Steel | | Packaging materials, steel, kg/m3 |
| PM_Plastic | | Packaging materials, plastic, kg/m3 |
| End_of_92 | | Volume of this waste stream as of the end of 1992 |
| Projected_end_of_92 | | Projected volume of this waste stream as of the end of 1992 |
| FF_End_of_92 | | The Volume of this waste stream on hand at end of 1992 in it's estimated final waste form to ship to the WIPP |
| FF_Projected_end_of_92 | | Not used. |
| End_of_93 | | The cumulative waste volume at the end of the year. |

Table 7-2. WTWBID Data Dictionary (continued)

| Field/Table Name | Notes | Description |
|-----------------------------------|--|--|
| FF_End_of_93 | | The cumulative waste volume of the waste on hand at end of year in its estimated final form for shipment to the WIPP. |
| End_of_94 | | The new waste volume at the end of the year; the increment added during the year |
| FF_End_of_94 | | The new waste volume of the waste on hand at end of year in its estimated final form for shipment to the WIPP, the increment added during the year |
| End_of_95 | | The new waste volume at the end of the year; the increment added during the year |
| FF_End_of_95 | | The new waste volume of the waste on hand at end of year in its estimated final form for shipment to the WIPP, the increment added during the year |
| End_of_96 | | The waste volume at the end of the year; the increment added during the year |
| FF_End_of_96 | | The new waste volume of the waste on hand at end of year in its estimated final form for shipment to the WIPP, the increment added during the year |
| End_of_97 | | The waste volume at the end of the year; the increment added during the year |
| FF_End_of_97 | | The new waste volume of the waste on hand at end of year in its estimated final form for shipment to the WIPP, the increment added during the year |
| 98-2002 | | The waste volume added per year during the period. |
| FF_98-2002 | | The waste volume added per year during the period in its estimated final form for shipment to the WIPP. |
| 03-2022 | | The waste volume added per year during the period. |
| FF_03-2022 | | The waste volume added per year during the period in its estimated final form for shipment to the WIPP. |
| Comments | | Miscellaneous comments applicable to page 2 of the data form |
| Container_- Footnotes | | Footnotes applicable to a specific container type in a waste stream. |
| <i>Table: Page_1</i> Site_Name | | Name of site, text spelled out as specified in a look-up table (ANL-E, Hanford, INEL, AMES, etc.). |
| MWIR_ID | | Unique Waste Stream Number derived from the Mixed Waste Inventory Report. |
| WIPP_ID | Key field to relate to container_data and EPACodes data tables | WIPP specific identification number assigned by WTWBIR Team. |

Table 7-2. WTWBID Data Dictionary (continued)

| Field/Table Name | Notes | Description |
|-------------------------------|-------|---|
| LOCAL_ID | | Locally assigned ID number for the waste stream |
| Gen_Site | | The name of the site that generated the waste, regardless of the actual storage site. |
| Waste_Type | | MTRU or TRU |
| Handling | | CH or RH |
| Stream_Name | | Abbreviation Description/Name of the Stream |
| Stream_description | | Memo field to describe the type of stream |
| MWIR_matrix_code | | Matrix Code, from MWIR if applicable and relevant |
| Assigned_matrix_code | | Matrix Code assigned by WTWBIR analysts... to be left blank by sites |
| Final_Waste_Form | | This is the code of the final (to WIPP) form of the waste stream |
| Matrix_Description | | Description and comments for the waste matrix in its final form for the WIPP |
| TRUCON | | Assigned TRUCON Code |
| NoMigrationAssign | | Code assigned for purposes of the WIPP No Migration Variance Petition. |
| IDC_from_Site_- Final_Form | | IDC supplied by Site for this stream. |
| IDC_Assigned_Final_ Form | | Equivalent IDC assigned by WTWBIR analysts based on their judgement |
| Waste_Ownership | | Defense, non-defense, commercial, or unknown |
| Waste_mixed_type | | Mixed, non-mixed, suspect mixed, or unknown |
| Waste_source | | R&D, Operational, Residues, ER and D&D, ER, D&D, or Unknown |

Table 7-2. WTWBID Data Dictionary (continued)

| Field/Table Name | Notes | Description |
|--|--|---|
| TSCA_data | | Asbestos, PCBs, Asbestos & PCBs, Other (describe in comment), No, N/A, or Unknown |
| Storage_data | | Retrievably stored, Buried, Building Storage, or Bermed Storage |
| Page 1_Footnotes | | Footnotes applicable to the whole waste stream. |
| <i>Table: epacodes</i> UNIQUE_WS | Key Field, related to Page_1, WIPP_ID | Unique waste stream identifier number. |
| EPA_CODE | | EPA code associated with a specific waste stream. |
| <i>Table: Nuclides</i> Cont_Counter | Key Field related to Container_Data, Counter | Relation to Container data counter, lock the record to a specific container/stream record in Container_Data. |
| Nuclide | | Nuclide designation in form Element Abbreviation, Atomic Weight, and excitation indicator if applicable (Ba137M). |
| Activity | | Scientific notation of activity in Pu239 equivalents in Curies/m3. |

7.3 DATABASE OPERATING INSTRUCTIONS

The WIPP Transuranic (TRU) Waste Baseline Inventory Report (WTWBIR), Revision 1, database is a Microsoft Access 2.0 database. It requires the user to possess a copy of Access 2.0 and be running under the Windows 3.1 operating system. Access, unlike most other databases, provides a single structure that contains objects such as queries, reports, program segments, macros, indexes, relations, and multiple data tables. This means there is only one file to work with, one with the suffix, .MDB. A second file normally accompanies the database file, one with the suffix .LDB and having the same name. It is not normally used except for certain file maintenance operations.

Two databases are provided as part of the compressed file on the distribution disk. The first database is WTWBIR_1, which contains the original data by waste streams from all generator/storage sites. This is the database used to print out the individual stream data in

Appendix A. The second database is called REPORTS. This is the database used to produce the other tables and figures in Volume 1 and Appendix B of the report. The databases are separate because the roll ups of data require some changes to the data to produce rational numbers in the tables and figures. These changes were described in section 7.2.

INSTALLATION: The two databases are compressed into a file on the distribution disk called WTWBIR.EXE. Approximately 6 megabytes of hard disc space should be available to install the database. To install the WTWBIR Rev. 1 database, copy WTWBIR.EXE to a convenient directory on your hard disk, go to the directory containing WTWBIR.EXE, type WTWBIR and press the enter key. The database should be expanded into the directory. The directory should now contain WTWBIR.EXE, WTWBIR1.MDB, WTWBIR1.LDB, WTWBIR.HLP, REPORTS.MDB, and REPORTS.LDB. WTWBIR.HLP contains the data field descriptions. This procedure can be performed either in DOS, a DOS prompt in Windows or from File Manager in Windows. Enter Windows and start Access, and open the WTWBIR_1 or REPORTS database. See the Access User's Manual in case of difficulty.

WTWBIR_1 INSTRUCTIONS: The WTWBIR Rev. 1 database has a built-in program (a macro called "autoexec") which takes control immediately upon opening the database file. It brings up a screen from which the user can view, edit, and locate various waste streams using the normal Access 2.0 tool bar features. In addition, a large printer icon button appear midway down the left side of the screen. This button affords the user the opportunity of printing the waste stream being viewed, waste streams for a specific site, or waste streams for all sites in the database. Scroll bars are provided to scroll between waste streams at the bottom left of the screen. For a given waste stream, the gray section contains waste container data for the various containers used to store this stream, and a scroll bar is provided in the bottom left to scroll among the types of containers for that waste stream. For a given type of container, the typical nuclides for that type of container are listed in a white area inset into the gray and a scroll bar provided.

Mirroring the contraction of the view screen, the WTWBIR data table set consists of the main table, Page_1, which contains site and stream data applicable to all container types used for the stream. Using the waste stream identification code (WIPP_ID) as a key, container-specific data in the Container_Data data table is related to the Page_1 table. Where radionuclides exist in a waste stream, they are listed in the Nuclides table and related to the Container_Data using record counters. For mixed streams, another data table, EPACodes, is related from Page_1's MWIR_ID field to EPACodes' UNIQUE_WS field. This structure affords a considerable savings in database size and is implemented in Access in such a way that they effectively function as one large, compact table.

Descriptions of the data fields can be viewed by opening the desired data table in Access's Table Mode, Design View. If the WTWBIR_1.HLP file was copied into the directory occupied by the WTWBIR database files, limited descriptions of the data fields in the WTWBIR database are available when you place the cursor in a data box and then press the F1 function key.

Reports Instructions:

Open the database REPORTS.MDB. An "autoexec" macro executes when the database opens. This macro presents a form, titled "Figure and Table Viewer", listing the reports available for viewing.

The reports and tables available for review are listed with a number on the left side. There should be eleven entries. If all entries cannot be seen, the scrolling arrows on the right side of the form can be used to scroll the entries. On the bottom of the form is a series of buttons numbered 1 to 11. Each form can be viewed (in report preview mode) by clicking on the command button with the same number as the number to the left of the list of figures and tables.

When the table appears on screen, the size of the window for viewing the table can be adjusted by clicking on the upper right corner up or down arrow in the report window. The report preview window also permits moving between pages of multi-page sets of figures and tables by using the arrows on the lower left corner.

The table or figure can be printed from the report preview window. The tables and figures were originally printed from and formatted for a Laserjet III. When printing the tables and figures, make sure the margins are set so that the entire table or figure is contained on one page, otherwise blank pages may be printed.

The first 8 tables and figures are the same as the tables and figures printed in volume 1 and Appendix B of this report. The figure and table numbers listed are the same as the figure and table numbers in the report. Figures number 9 and 10 show the average material parameters by site for contact handled and remote handled waste. These figures were not used in the report. The last table shows the estimated WIPP packaging material parameters. These numbers are also presented on Tables 5-1 and 5-2 in this viewer and in Volume 1 of the report.

7.4 WTWBID QUALITY CONTROL

To ensure that proper controls and documentation were in place during development and population of the WTWBID, several quality control activities were implemented by the WTWBIR Team. Project quality control objectives were to:

- Define a method for receiving, tracking, reviewing, updating, and documenting data received from the waste generator/storage sites.
- Identify and document the contents of each project baseline.
- Establish and implement a process for releasing and maintaining the WTWBID.
- Create a master library for WTWBID software and documentation.
- Ensure that WTWBID-generated reports and database copies are produced from released database revisions.

The activities performed to meet these objectives are described in the Waste Isolation Pilot Plant Baseline Inventory Report Database Management Procedure (DOE, 1995). The procedure identifies the responsible individuals and required actions for developing, populating, and maintaining the WTWBID, and for managing the data used to produce the WTWBIR and other summary documents.

8. GLOSSARY

40 CFR Part 191, Protection of Environment. EPA: Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and TRU Radioactive Wastes – The EPA's environmental standards for the storage (Subpart A) and disposal (Subpart B) of spent nuclear fuel, and high-level and TRU radioactive wastes. This is the primary post-closure standard that applies to WIPP. It limits annual radiation doses to the public from waste management storage and disposal facilities.

40 CFR Part 268, Protection of Environment. EPA: Land Disposal Restrictions – Restricts the land disposal of all hazardous wastes and specifies strict treatment standards that must be met before these wastes can be land-disposed.

Americium (Am) – A TRU radionuclide having an atomic number of 95, containing 95 electrons and 95 protons. Am-241 (half-life 432.7 y) results from the decay of Pu-241 (half-life 14.4 y). Waste initially rich in Pu-241 will therefore "grow" in Am-241 for several decades as the Pu decays. Am-241 exists in finite amounts in TRU waste at some DOE sites.

Anticipated Inventory – The sum of the stored and projected inventories, as defined in this document.

Buried Waste – TRU waste buried in shallow trenches prior to the 1970 Atomic Energy Commission policy that required TRU waste to be retrievably stored.

Californium (Cf) – A TRU element having an atomic number 98 (the number of protons in the nucleus). An alpha emitter (half-life 2.64 y), Cf-252 also spontaneously fissions, thus making it desirable as a neutron source. Cf-252 is created by neutron bombardment of Cm-244 targets. OR is the only production agency for Cf. As a result, the OR inventory is the only TRU waste inventory showing finite quantities of this element.

Code of Federal Regulations (CFR) – (1) A codification of the general and permanent rules published in the **Federal Register** by the department and agencies of the federal government. The CFR is divided into 50 titles that represent broad areas subject to federal regulation. It is issued quarterly and revised annually. (2) All federal regulations in force are published annually in codified form in the CFR.

Contact-Handled (CH) TRU Waste – Packaged TRU wastes with an external surface dose rate of 200 mrem or less per hour.

Curie – A quantitative measure of radioactivity equal to 3.7×10^{10} disintegrations per second.

Curium (Cm) – A TRU element having an atomic number of 96 (the number of protons in the nucleus). An alpha emitter (half-life 18.1 y), Cm-244 is used for neutron bombardment of targets for the production of Cf-252 at OR. In spite of its half-life being less than 20 years, OR considers and handles Cm-244 as a TRU nuclide. Some TRU waste at both OR and SR contains Cm-244.

Decontamination and Decommissioning (D&D) – The process through which DOE facilities which are no longer operational are cleared of contamination and removed from service. In particular, a reference to D&D waste is a reference to the waste materials that are generated during D&D activities.

Defense Waste – (1) Radioactive waste from any activity performed in whole or in part in support of DOE atomic energy defense activities; excludes waste under purview of the Nuclear Regulatory Commission or generated by the commercial nuclear power industry. (2) Nuclear waste derived mostly from the manufacture of nuclear weapons, weapons-related research programs, the operation of naval reactors, and the decontamination of production facilities.

Department of Energy Site – A DOE-owned or -controlled tract used for DOE operations. Either a tract owned by DOE or a tract leased or otherwise made available to the federal government under terms that afford to DOE rights of access and control substantially equal to those that DOE would possess if it were the holder of the fee (or pertinent interest therein) as agent of and on behalf of the government. One or more DOE operations/program activities are carried out within the boundaries of the described tract.

Design Capacity – The planned waste capacity of the Waste Isolation Pilot Plant.

Disposal – Emplacement of waste in a manner that assures isolation from the biosphere for the foreseeable future with no intent of retrieval and that requires deliberate action to regain access to the waste. For example, disposal of wastes in a mined geologic repository occurs when all of the shafts to the repository area are backfilled and sealed.

Disposal Inventory – The total inventory defined for WIPP emplacement (after scaling) to be used for SPM and PA calculations.

Environmental Restoration (ER) – Those activities associated with the remediation of sites contaminated with hazardous and/or radioactive materials. In particular, a reference to remediation activities conducted under the auspices of the DOE Office of Environmental Restoration and Waste Management, Office of Environmental Restoration, EM-40.

Federal Facility Compliance Act (FFCAct) – Public law 102-386, 1992.

Gas Production – Three gas generation processes are expected to be a factor in the degradation of TRU wastes in the WIPP repository. The generation of gaseous species is expected to occur through chemical (i.e., corrosion), microbial, and radiolytic processes.

Generator/Storage Sites – See Waste Generator/Storage Sites.

Hazardous Waste – Those wastes that are designated hazardous by EPA (or state) regulations through the RCRA.

Integrated Data Base (IDB) – The latest version of the IDB, the *Integrated Data Base for [CY]: U.S. Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics* (DOE, 1994b)

Mixed TRU Waste – TRU waste that contains both radioactive and hazardous components as defined by the Atomic Energy Act and the RCRA as codified in 40 CFR Parts 263, 265, 268, and 270 (EPA, 1980a; 1980b; 1986; and 1983).

Mixed Waste Inventory Report (MWIR) – The latest release of information from the MWIR database that supports requirements under the FFCA of 1992 (Public Law 102-386). The latest version of the MWIR documentation/files is *Distribute of Phase II Mixed Waste Inventory Report Data*, dated May 17, 1994 (DOE, 1994a). This information replaces the Phase I MWIR release (DOE, 1994c).

Newly Generated Wastes – See Projected Inventory.

No-Migration Variance Petition (NMVP) – Section 3004 of RCRA allows EPA to grant a variance from the land disposal restrictions when a determination can be made that, to a reasonable degree of certainty, there will be no migration of hazardous constituents from the disposal unit for as long as the waste remains hazardous. Specific requirements for making this demonstration are found in 40 CFR 268.6, and EPA has published a draft guidance document to assist petitioners in preparing a variance request.

Non-Mixed TRU Waste – Transuranic waste that does not contain hazardous constituents or exhibit hazardous characteristics, as identified in 40 CFR 261, Subparts C and D.

Performance Assessment (PA) – (1) A systematic analysis of the potential risks posed by waste management systems to the public and environment and a comparison of those risks to established performance objectives. (2) An analysis that (a) identifies the processes and events that might affect the disposal system, (b) examines the effects of these processes and events on the performance of the disposal system, and (c) estimates the cumulative releases of radionuclides, considering the associated uncertainties, caused by all significant processes and events. These estimates shall be incorporated into an overall probability distribution of cumulative release to the extent practicable. (3) A term used to denote all activities (qualitative and quantitative) carried out to (a) determine the long-term ability of a site/facility to effectively isolate the waste and ensure the long-term health and safety of the public and (b) provide the basis for demonstrating regulatory compliance.

Plutonium (Pu) – A radionuclide having an atomic number of 94. Pu isotopes exist in some TRU waste at all the major DOE storage facilities. The significant isotopes that may exist in measurable quantities at these facilities are Pu-238 through Pu-242. Each isotope is an alpha emitter; the respective half-lives in years are: 238=87.7, 239=24,000, 240=6,563, 241=14.4, 242=376,000. Because of its high activity, Pu-238 can contribute significantly to the thermal loading on some TRU waste. Pu-241 decays, primarily by beta emission, to Am-241.

Process Knowledge – A qualitative evaluation of the contents of a waste container through the study of existing records of production history of the waste.

Projected Inventory – That part of the inventory that has not been generated but is estimated to be generated at some time in the future by the TRU waste generator/storage sites. The estimated timeframe may vary, but is usually between 20 and 30 years. "Newly generated waste" also is sometimes used as a synonym for the projected inventory.

Radioactive – The emission of radiation from unstable atomic nuclei.

Radionuclide – (1) A species of atom having an unstable nucleus, that is subject to spontaneous decay or disintegration and usually accompanied by the emission of ionizing radiation. (2) Any nuclide that emits radiation. A nuclide is a species of atom characterized by the constitution of its nucleus and hence by the number of protons, the number of neutron, and the energy content.

Remote-Handled (RH) TRU Waste – Packaged TRU wastes with an external surface dose rate exceeding 200 mrem per hour.

Repository – Designated location for disposal of transuranic wastes; the Waste Isolation Pilot Plant.

Resource Conservation and Recovery Act (RCRA) – (1) Establishes a system for controlling hazardous waste from generation to disposal. (2) A Federal law passed in 1976, and amended under the HSWA of 1984, that established a structure to track and regulate hazardous wastes from the time of generation to disposal. The law requires safe and secure procedures to be used in treating, handling, transporting, storing, and disposing of hazardous substances. RCRA is designed to prevent new uncontrolled hazardous waste sites. The law also regulates the disposal of solid waste that may not be considered hazardous. (3) Specifically, Subtitle D of RCRA governs the management of solid waste. (Note: 40 CFR Parts 260-281 are the regulations for complying with RCRA with respect to hazardous waste and hazardous waste treatment, storage, and disposal facilities.)

Retrievable Storage – Designated storage location for transuranic wastes that is designed, operated, and maintained in such a manner that the wastes remain accessible for subsequent retrievable operations.

Scaling – The process for adjusting the anticipated inventory to the design limit (disposal inventory) of the WIPP repository.

Site-Specific Waste Profile – Represents a WMCG at a particular DOE TRU waste generator/storage site. That is, one or more waste stream profiles, at a particular DOE TRU waste site, that have been placed in the same WMCG are summarized in the site-specific waste profile.

Stakeholders – Those persons and/or groups of people and organizations who are affected or perceive they are affected by the DOE waste management program. Stakeholders include DOE management, employees, and contractors (internal); and executive, legislative, and regulatory groups, public representatives, the general public, intervenor groups, special interest groups, contractors, suppliers, and universities (external).

Stored Inventory – That part of the TRU inventory currently in retrievable storage as of the time of the last data call for inventory information. Retrievably stored waste includes waste stored in buildings or in berms with earthen cover since 1970 and does not include any waste that was buried prior to 1970.

System Prioritization Methodology (SPM) – The SPM is a process formulated to identify a set of activities (required experiments, modeling, engineering design, and waste acceptance criteria) that will lead to regulatory compliance. The process is formulated such that it also: (1) addresses stakeholder and regulator concerns early and throughout the regulatory process and (2) leads to a fully defensible performance assessment to be used in demonstrating regulatory compliance. Ultimate products and associated customers are:

- (1) A decision matrix containing the most likely sets of activities that will lead to compliance as a function of time and budget to be delivered to the WIPP program manager,
- (2) A performance assessment built on assumptions and data that are defensible in the eyes of the stakeholders and the regulators to be delivered to the regulatory compliance branch of Carlsbad Area Office/WIPP through the Westinghouse Waste Isolation Division and ultimately to the EPA, and
- (3) A set of regulatory issues and their current status that result from the SPM process and are to be included in compliance packages by the Westinghouse Waste Isolation Division.

Thorium (Th) – A radionuclide having an atomic number of 90. Although not TRU, Th-232 is an alpha emitter (half-life 14 billion years) and exists in finite amounts in some TRU waste at HA, IN, and OR. [Note: Thorium is naturally occurring and contributes to background radiation at some sites (e.g., IN)]

Transuranic – Pertaining to elements that have atomic numbers greater than 92, including neptunium, plutonium, americium, and curium; all are radioactive, are products of artificial nuclear changes, and are members of the actinide group.

Transuranic (TRU) Waste – (1) Waste containing alpha-emitting radionuclides with an atomic number greater than 92 and half-lives greater than 20 years, at concentrations of TRU isotopes greater than 100 nanocuries per gram of waste. **This core definition appears in modified form in various relevant documents as follows:** (a) For purposes of management, DOE Order 5820.2A: (i) considers TRU waste, as defined above, "without regard to source or form" (*The proposed revision to the Order [DOE Order 5820.2A Major Issues for Revision, May 6, 1992]* contemplates removing this clause); (ii) allows head of field elements to determine that wastes containing other alpha-emitting radionuclides must be managed as TRU waste; and (iii) adds "at time of assay," implying both that the classification of a waste as TRU waste is to be made based on an assay, and that such classification can be superseded only by another assay. (b) For purposes of setting standards for management and disposal, 40 CFR 191.02(i) adds "except for: (i) high-level wastes; (ii) wastes that the DOE has determined, with the concurrence of the EPA Administrator, do not need the degree of isolation required by this part; or (iii) wastes that the Nuclear Regulatory Commission has approved for disposal on a case-by-case basis in accordance with 10 CFR 61. (2) Waste materials contaminated with U-233 (and its daughter products), with certain isotopes of plutonium, or with other nuclides with atomic numbers greater than 92. In order to be classified as TRU waste, the long-lived alpha activity from subject isotopes must exceed 100 nanocuries per gram of waste material and from the use of plutonium in the fabrication of nuclear weapons. (3) Wastes that are contaminated with radioactive elements heavier than uranium, thus the name trans-(or beyond) uranic.

TRUCON – See TRUPACT-II Content Code.

TRUPACT-II Content Codes (TRUCON) – The document containing a description of the waste stream, waste form, and package configuration for each waste content code authorized for shipment in TRUPACT-II containers.

Unknown Waste Stream – Those waste streams for which there is insufficient process knowledge to assign a specific WMC.

Uranium (U) – A naturally radioactive element with the atomic number of 92 (number of protons in the nucleus) and an atomic weight of approximately 238. The two principal naturally occurring isotopes are the fissionable U-235 (0.7 percent of natural uranium) and the fertile U-238 (99.3 percent of natural uranium). (Note: An alpha emitter [half-life 159,000 y], U-233 also spontaneously fissions; it is present in finite quantities in some TRU waste inventories at INEL and ORNL.)

Waste Acceptance Criteria (WAC) – The criteria used to determine if waste packages are acceptable.

Waste Form – The physical form of the waste such as sludges, combustibles, metals, etc.

Waste Generator/Storage Sites – The 10 largest DOE facilities and several smaller sites throughout the U.S. that produce and store TRU waste.

Waste Isolation Pilot Plant (WIPP) – (1) The project authorized under Section 213 of the DOE National Security and Military Applications of Nuclear Energy Authorization Act of 1980 (Public Law 96-164; 93 Stat. 1259, 1265) to demonstrate the safe, and environmentally sound, disposal of radioactive waste materials generated by atomic energy defense activities. (2) A research and development facility, located near Carlsbad, New Mexico, to be used for demonstrating a practical, long-term solution to a complex problem: the safe disposal in deep geologic repositories of TRU waste resulting from DOE activities. (3) The WIPP has two primary objectives. First, the WIPP is investigating the behavior of salt rock and interactions between the salt rock and radioactive wastes in a variety of forms. Second, the WIPP seeks to demonstrate the safe and efficient handling, transportation, and disposal of TRU waste in an actual facility.

Waste Material Parameter – A waste material that occurs in TRU waste that is an input parameter into one or more current SPM or PA models, an SPM or PA model under development, a potential future model, or is required to adequately describe the waste form.

Waste Matrix Code (WMC) – A DOE-developed coding system for organizing waste streams by their physical and chemical properties. A WMC is assigned to each waste stream by the DOE TRU waste generator/storage site. The WMC for each waste stream can be found in the Mixed Waste Inventory Report (DOE, 1994a). This coding system allows waste streams within the DOE TRU waste system that have similar physical and chemical waste form properties to be categorized together. WMCs also have been called "waste treatability codes" in other DOE documents. Appendix C contains the DOE guidance document to help categorize individual waste streams. An example of a WMC for "heterogeneous waste" would be 5400.

Waste Matrix Code Group (WMCg) – Consists of a series of WMCs that for SPM or PA purposes has similar physical and chemical properties.

Waste Stream – Individually, those stored or projected wastes that are defined by a unique identifier in the MWIR.

Waste Stream Name – A site-specific, unique descriptive identifier for a TRU waste stream.

Waste Stream Profile – A description of a CH-TRU or RH-TRU waste stream destined for shipment to and disposal in WIPP, if authorized under permits and certifications by appropriate regulatory agencies for disposal in the WIPP repository. The waste stream profile is presented in tabular format and is intended to provide a summary of the important information about a particular waste stream.

Waste Stream Site ID – A site-specific alphanumeric identification code which provides a unique identifier for an individual TRU waste stream.

WIPP Waste Profile – Represents a summary of TRU waste at all DOE TRU waste generator/storage sites that have an identical WMCG.

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**Exhibits for Submission to NMED
With WIPP's Comments to
the November 26, 2003 Agency-
Initiated Permit Modification**

Volume 1 of 4

040155.5



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| | 2. | June 1994 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 0, Book 1 of 2, CAO-94-1005 |
| | 3. | June 1994 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 0, Book 2 of 2, CAO-94-1005 |
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| | 8. | 11/2/95 | Letter from B. Hoditschek of NMED to G. Dials of WIPP transmitting NMED comments on Revision 5 of the WIPP Part B RCRA Permit Application (Chapters A, B, and C), and requesting additional information |
| | 9. | 12/20/95 | Letter from M. McFadden of WIPP to B. Garcia of NMED providing responses to NMED's 11/2/95 comments on Revision 5 of the WIPP Part B RCRA Permit Application |
| | 10. | 3/14/96 | Letter from B. Garcia of NMED to G. Dials and J. Epstein of WIPP transmitting a Notice of Deficiency (NOD) regarding Revision 5.2 of WIPP's Part B RCRA Permit Application |
| | 11. | 4/12/96 | WIPP's responses to NMED's 3/14/96 NOD, hand delivered to B. Garcia of NMED on 4/12/96 |
| | 12. | 3/19/99 | Verbal hearing testimony of NMED's technical expert Constance Marie Walker during WIPP's 1999 RCRA Permit hearing, transcript pages 2717 - 2719 |
| | 13. | 6/25/99 | Summary of May 15, 1998 Draft Permit Public Comments and Responses to Comments by NMED, Module II.C, NMED response to Comment N-46, as reviewed by "CMW" |
| | 14. | 3/23/99 | NMED's Direct Testimony Regarding Regulatory Process and Imposed Conditions |
| | 15. | Jan. 2004 | NMED Green Gazette Newsletter, Volume I, Issue 1, Winter 2004 |
| | 16. | 1/9/04 | Request for Class 3 Permit Modification to the Hazardous Waste Facility Permit, Permit Number NM4890139088-TSDF, Implementing Section 311 of Public Law 108-137, transmittal letter from I. Triay and S. Warren of WIPP to S. Zappe of NMED |
| | 17. | 6/27/02 | WIPP Class 2 Permit Modification Request, Waste Characterization Updates and Other Process Improvements, Add U134 as a New Hazardous Waste Number, transmittal letter from I. Triay and J. Lee of WIPP to S. Zappe of NMED |
| | 18. | 11/25/02 | Letter from G. Lewis of NMED to I. Triay of WIPP approving 6/27/02 Class 2 PMR to add U134 as a new hazardous waste number |
| | 19. | Dec. 2001 | Rinchem Company, Inc., Albuquerque, NM - Final RCRA Operating Permit |
| | 20. | 12/2/97 | Rinchem Company, Inc., Albuquerque, NM - NMED request for supplementary information regarding Rinchem's Waste Analysis Plan in the Permit Application |
| | 21. | 4/24/96 | Rinchem Company, Inc., Albuquerque, NM - NMED Notice of Deficiency regarding February 1995 Permit Application |
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| | 31. | Mach 2002 | Gandy Marley, Inc. Triassic Park Waste Disposal Facility, Chavez County, NM, RCRA Operating Permit |
| | 32. | 6/11/99 | Fax from P. Corser of Montgomery Watson to G. Starkebaum of TechLaw, re: Preliminary Draft of Gandy Marley, Inc. Response to Request for Supplemental Information - May 1999 |
| | 33. | 6/10/99 | Letter from J. Bearzi of NMED to L. Gandy of Triassic Park, re: Draft Responses to Request for Supplemental Information |
| | 34. | 5/5/00 | Letter from S. Kruse of NMED to R. Davis of State Fire Marshal's Office, re: Proposed Hazardous Waste Landfill |
| | 35. | March 1988 | "Hazardous Waste Storage and Disposal in Geologic Repositories - Permit Guidance Under the Resource Conservation and Recovery Act, OSWER Directive 9523.00-1", U.S. EPA |
| | 36. | 10/17/01 | Verbal hearing testimony of NMED's technical expert Constance Marie Walker during Triassic Park's RCRA Permit hearing, transcript pages 857-859 |
| | 37. | 10/19/01 | Hearing Officer's Report, In the Matter of the Draft Final Permit for the Triassic Disposal Facility U.S. EPA No. NM0001022484, pages 97 - 98 |
| | 38. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Table of Contents and Cross-Reference Table |
| | 39. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Chapter A (incl. Part A Permit Application Form Revision 7) |
| | 40. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Chapter B |

**STATE OF NEW MEXICO
BEFORE THE SECRETARY OF THE ENVIRONMENT**

**IN THE MATTER OF THE FINAL PERMIT
ISSUED TO THE UNITED STATES
DEPARTMENT OF ENERGY AND
WESTINGHOUSE ELECTRIC COMPANY
WASTE ISOLATION DIVISION FOR
A HAZARDOUS WASTE ACT PERMIT
FOR THE WASTE ISOLATION PILOT
PLANT; USEPA No. NM4890139088**

HRM 98-04(P)

REPORT OF THE HEARING OFFICER

**STATEMENT OF THE CASE
ISSUE
FINDINGS OF FACT
DISCUSSION
CONCLUSIONS OF LAW
RECOMMENDED DECISION AND PROPOSED FINAL ORDER**

STATEMENT OF THE CASE

The United States Department of Energy ("DOE") is the owner and operator, and the Westinghouse Waste Isolation Division ("WID"), a private corporation, is the co-operator (collectively "Applicants") of the Waste Isolation Pilot Plant ("WIPP"). The WIPP facility is located in southeastern New Mexico, approximately 26 miles east of the City of Carlsbad. WIPP was designed and constructed to store and dispose transuranic ("TRU") nuclear waste and TRU waste that is mixed with hazardous waste ("TRU mixed waste") in an underground geologic repository, mined within a bedded salt formation. Owners and operators of facilities located in New Mexico that store or dispose TRU mixed waste must apply for a permit from the New Mexico Environment Department. Accordingly, Applicants seek a permit under the New

(Miscertification) *supra*; NMED's Response to Public Comment (June 25, 1999); Proposed Final Permit of June 25, 1999.

CONCLUSIONS OF LAW

Based upon the foregoing Findings of Fact and Discussion, the Hearing Officer renders the following legal conclusions:

1. The Secretary of NMED ("the Secretary") has jurisdiction to require all persons that manage, store or dispose TRU mixed waste to submit an application and obtain a final permit that includes corrective action requirements under the HWA and 20 NMAC 4.1. *et seq.*
2. The WIPP repository is a "miscellaneous unit" under 20 NMAC 4.1.101 (incorporating 40 C.F.R. §260.10); 20 NMAC 4.1.300 (incorporating 40 C.F.R. § 262.10) and subject to the standards under 20 NMAC 4.1.500 (incorporating 40 C.F.R. § 264.600 (Subpart X)).
3. DOE is a "person" under Section 74-4-3.K of the HWA and the owner and operator of WIPP under 20 NMAC 4.1.900 (incorporating 40 C.F.R. §270.2). WID is also a "person" under Section 74-4-3.K of the HWA and a co-operator of WIPP under 20 NMAC 4.1.900 (incorporating 40 C.F.R. §270.2).
4. The Secretary has authority to require and issue a final permit to Applicants for the management, storage or disposal of TRU mixed waste at WIPP under the HWA and 20 NMAC 4.1. *et seq.* Under NMED regulations, the burden of proof for issuance of a HWA permit, shall be on the Applicants. 20 NMAC 4.1.901.E.6.
5. NMED has complied with all administrative and procedural laws and regulations

respecting the application and permitting process including the pertinent provisions of 40 C.F.R. §124.32(b)(1), 270.10(c) and 20 NMAC 4.1.900, 901.

6. Pursuant to 20 NMAC 1.4.401.A. and 20 NMAC 4.1.901.E.6, Applicants are charged with the burden of proving that the permit application should be granted and a HWA permit issued. NMED has the burden of proving that the conditions it proposes in the Proposed Final Permit are justified. After establishment of a *prima facie* case, any person opposed to the Permit, or to any imposed condition therein, has the burden of going forward with any adverse evidence proving that the Permit should not be granted.

7. Pursuant to 20 NMAC 4.1.901.A.7, the Secretary must give due consideration and weight to all comments received during the public comment period and to all relevant facts presented at the public hearing.

8. Based upon the full record, Applicants have met their burden of proving that a HWA permit should be granted. Notwithstanding certain findings and recommendations of the Hearing Officer set forth herein [*see Discussion* (TRU Non-Mixed Waste and RH TRU Waste) *supra*], NMED has met its burden of proving that the conditions it proposes to impose in the Proposed Final Permit of June 25, 1999, along with all attachments thereto, are justified. Those opposed to issuance of the Proposed Final Permit, or to any conditions set forth therein, have failed to meet their burdens of proof.

9. Each permit for an interim status or new hazardous waste management facility shall contain terms and conditions as necessary to protect human health and the environment. 20 NMAC 4.1.900 (incorporating 40 C.F.R. §270.32(b)(2)).

10. Each permit must include permit conditions necessary to achieve compliance with

the HWA and regulations, including each of the applicable requirements specified in 20 NMAC 4.1.500 (incorporating 40 C.F.R. Part 264), 20 NMAC 4.1.900 (incorporating 40 C.F.R. §270.32(b)(1))

11. The audit requirement as proposed by NMED in Permit Condition³³ II.C.2 of the Proposed Final Permit of June 25, 1999, is a condition necessary for approval of the WAP in order to protect human health and the environment. 20 NMAC 4.1.901.A.8 and NMSA 1978 §74-4-4.2(C) (Repl. Pamp. 1993).

12. Permit Condition II.C.2 is a condition necessary to achieve compliance with 20 NMAC 4.1.900 (incorporating 40 C.F.R. §270.14 (b)(2) and §270.32(b)(1)) in order to address permit application deficiencies; to demonstrate compliance with the WAP; and to obtain all the information which must be known to manage, store and dispose TRU mixed waste at WIPP in accordance with 40 C.F.R. Part 264. 20 NMAC 4.1.901.A.8 and NMSA 1978 §74-4-4.2(C) (Repl. Pamp. 1993).

13. No Party or commentator has met their burden in challenging NMED's determination to impose Permit Condition II.C.2 by presenting substantial evidence that this condition is unreasonable or inconsistent with the HWA. *See* 20 NMAC 4.1.901.E.6 and 20 NMAC 1.4.401.A.

14. Permit Condition II.C.3.h is necessary to protect human health and the environment consistent with NMAC 4.1.500, .900 (incorporating 40 C.F.R. §§264.13, 270.14(b)(2)).

15. No Party or commentator has met their burden in challenging NMED's

³³ Hereinafter, unless otherwise specified, "Permit Conditions" refers to those conditions proposed by NMED in the proposed Final Permit of June 25, 1999.

Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report



June 1994

Book 1 of 2

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EXECUTIVE SUMMARY

The *Waste Isolation Pilot Plant (WIPP) Transuranic Waste Baseline Inventory Report (WTWBIR)* establishes a methodology for grouping wastes of similar physical and chemical properties, from across the U.S. Department of Energy (DOE) transuranic (TRU) waste system, into a series of "waste profiles" that can be used as the basis for waste form discussions with regulatory agencies.

The WIPP baseline inventory is estimated using waste streams identified in the recent information released in the *Mixed Waste Inventory Report (MWIR)*, supplemented by information from the Nonradionuclide Inventory Database (NID) and the 1993 Integrated Data Base (IDB). Each waste stream is defined in a waste stream profile and has been assigned a waste matrix code (WMC) by a DOE TRU waste generator/storage site. Waste stream profiles with WMCs that have similar physical and chemical properties can be combined into a waste matrix code group (WMCG), which is then documented in a site-specific waste profile for each TRU waste generator/storage site that contains waste streams in that particular WMCG.

Based on methodology presented here in the WTWBIR, a maximum of 11 site-specific waste profiles have been identified for contact-handled (CH) TRU waste and a maximum of 11 have been identified for remote-handled (RH) TRU waste. Based on analyses of existing inventories, no site has more than 10 site-specific CH-TRU waste profiles, nor more than 5 site-specific RH-TRU waste profiles. Each of these site-specific waste profiles have unique WMCG criteria and they are developed, if appropriate, for each of the TRU waste generator/storage sites. A particular site-specific waste profile, with a specific WMCG, can be combined with other site-specific waste profiles having identical WMCGs from the TRU waste generator/storage sites to derive a WIPP waste profile. Therefore, a maximum of 11 WIPP waste profiles for CH-TRU waste and a maximum of 6 WIPP waste profiles for RH-TRU waste have been identified that describe the different TRU wastes across the DOE system.

The anticipated inventory of TRU waste is defined as the sum of retrievably stored waste plus currently projected TRU waste volumes. The anticipated inventory is not sufficient to fill the allowed capacity of WIPP (calculated: $6.2 \times 10^6 \text{ ft}^3$ [$\sim 1.76 \times 10^5 \text{ m}^3$]), and scaling has been developed as a means of examining the impacts of the full repository. Additionally, there is a high uncertainty in and a current lack of data on wastes produced from decontamination and decommissioning (D&D) and environmental restoration (ER) activities. Therefore, the anticipated inventory has been "scaled" to the WIPP capacity. The scaling of the inventory in future revisions of the WTWBIR will be derived from the best available data and assumptions.

An example of five waste streams at two sites (Idaho National Engineering Laboratory and Rocky Flats Plant) has been used to illustrate the waste profile methodology. Preliminary total WIPP inventory volumes for the 11 CH-TRU and 6 RH-TRU WIPP waste profiles are provided; final volumes will be provided in Revision 1 of this document after the DOE TRU waste generator/storage sites have reviewed the data and after quality checks of the data have been completed.

Using the same waste profile methodology, the WTWBIR also estimates the WIPP disposal inventory (anticipated inventory that has been scaled to WIPP design capacity) in terms of 10 waste material parameters and packaging materials that have been identified as inputs needed

for the system prioritization (SP) and performance assessment (PA) calculations. The 10 waste material parameters and packaging materials are waste constituents that occur in TRU waste and are input parameters for one or more SP and PA models or are required to adequately describe the waste form. These parameters may change as a result of SP and PA efforts.

The 10 waste material parameters and packaging materials that are defined and included in the WTWBIR are:

- Inorganics
 - Iron-based metals/alloys
 - Aluminum-based metals/alloys
 - Other metals
 - Other inorganic materials
- Organics
 - Cellulosics
 - Rubber
 - Plastics
- Solidified Materials
 - Inorganic matrix
 - Organic matrix
- Soils
- Packaging Materials
 - Steel
 - Plastic or lead

The waste material parameter information is reported in kilograms per cubic meters (kg/m^3) and estimates of the uncertainty in the waste material parameters have been calculated, based on data derived from the NID (i.e., average, minimum, and maximum estimates of waste material parameters on a per-waste-stream basis). The maximum values for waste material parameters in the waste stream, site-specific, and WIPP waste profiles are expressed on a weight/volume basis. However, the occurrence of more than one waste material parameter at the maximum value within a waste stream is highly unlikely. During SP and PA calculations, the sampling statistics must be controlled so that several waste material parameters do not get sampled all at their maximum value (weight/volume), lest the maximum weight/volume is exceeded. A five-waste-stream/two-site example is used to illustrate the methodology for estimating quantities of waste material parameters. **The preliminary total WIPP inventory for the waste material parameters is provided and should be used in any SP and PA calculations until Rev. 1 of the WTWBIR is published, pending completion of quality checks of the data used. The nonradionuclide and radionuclide inventory presented in this report replaces any previously used information in SP and PA calculations.**

Although the initial purpose of this report is to provide data to be included in the Sandia National Laboratories/New Mexico SP and PA processes, all data are presented and explained in such a way that they can be adapted as needed for other applications. The WTWBIR, Revision 0, is presented in two parts: Book 1 contains this Executive Summary through Chapter 7, References; Book 2 contains Appendix A, Glossary, through Appendix M, MWIR Code Designations and Descriptions.

CHAPTER 1

1. INTRODUCTION

1.1 BACKGROUND

The Waste Isolation Pilot Plant (WIPP) is a transuranic (TRU) waste management facility operated by the U.S. Department of Energy (DOE). The WIPP is currently identified as the permanent disposal site for DOE TRU waste.

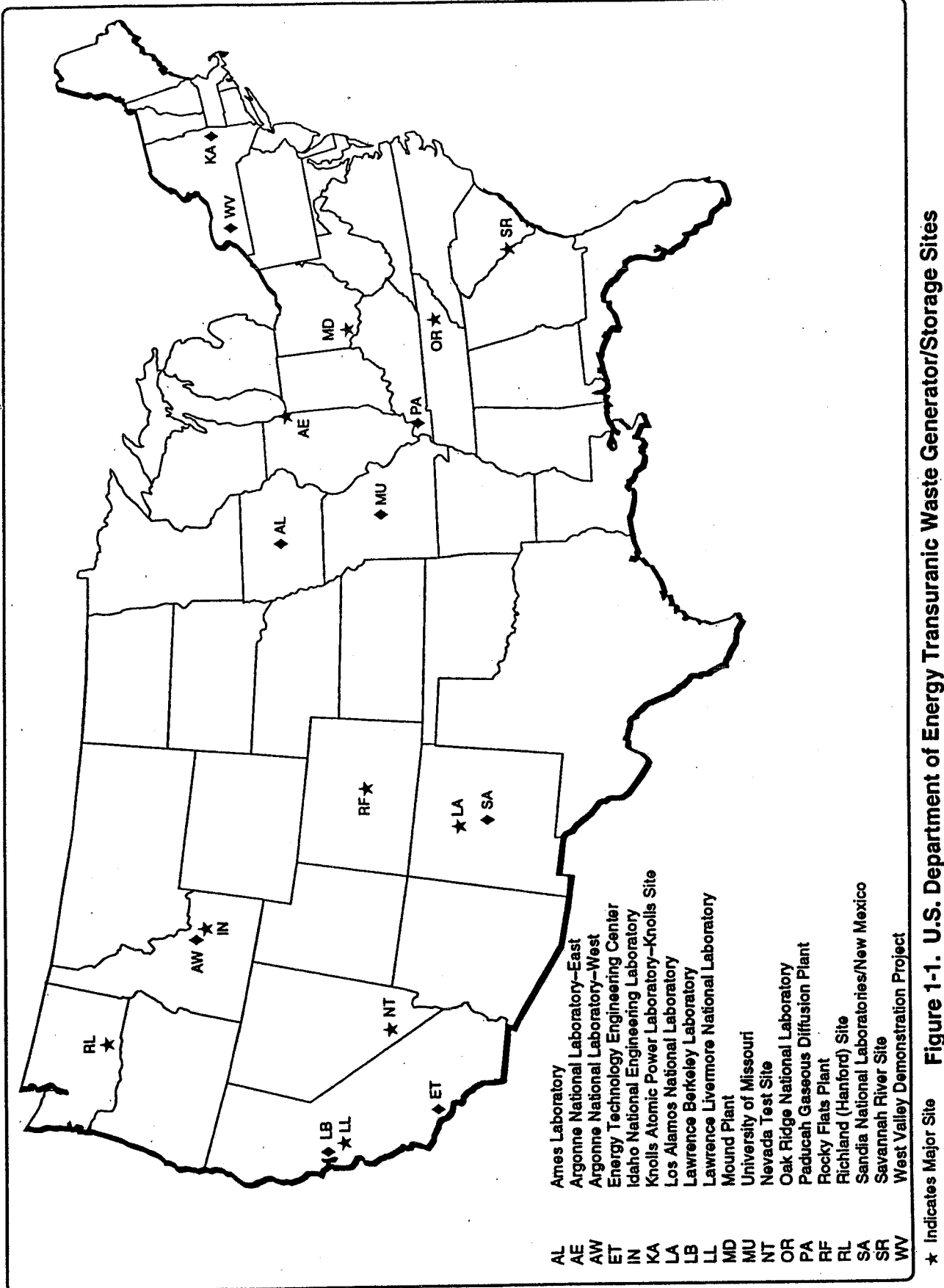
TRU waste is defined as waste that is contaminated with alpha-emitting radionuclides with an atomic number greater than 92, with half-lives greater than 20 years, and concentrations of TRU isotopes greater than 100 nanocuries per gram of waste (DOE, 1988). TRU wastes are classified as either contact-handled (CH) waste or remote-handled (RH) waste, depending on the dose rate at the surface of the waste container. CH-TRU wastes are packaged TRU wastes with an external surface dose rate of 200 millirems (mrem) or less per hour, while RH-TRU wastes are packaged TRU wastes with an external surface dose rate exceeding 200 mrem per hour. Unless otherwise indicated, for purposes of this document, all references to TRU waste include TRU waste and mixed TRU waste (waste that contains both radioactive and hazardous components, as defined by the Atomic Energy Act and the Resource Conservation and Recovery Act [RCRA] as codified in Title 40 Code of Federal Regulations [CFR] Parts 264, 265, 268, and 270 [EPA, 1980a; 1980b; 1986; and 1983]).

The DOE is committed to demonstrating compliance with all applicable regulations prior to permanent disposal of TRU wastes in the WIPP repository. These regulations are the environmental standards for management and disposal of TRU wastes as mandated in 40 CFR Part 191 (EPA, 1993b) and Part 194 (EPA, 1993a), and the RCRA regulations. The WIPP is scheduled to receive and dispose of TRU wastes from 10 major and several minor DOE TRU waste generator/storage sites (see Figure 1-1). Compliance will be demonstrated through performance assessment (PA) calculations based on the inventory of existing and currently projected waste streams developed in this report, and as reported by the DOE TRU waste generator/storage sites.

1.2 PURPOSE

The purpose of this document, the *Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report* (WTWBIR), is to document the disposal inventory of TRU waste to be emplaced in WIPP from the DOE TRU waste generator/storage sites. This inventory of CH-TRU and RH-TRU waste will be used in systems prioritization (SP) and PA calculations and sensitivity analyses that will support the development of compliance applications to the appropriate regulatory agencies regarding the operations and post-closure timeframes of the WIPP repository.

To accomplish this purpose, the WTWBIR has been developed from the best available information and process knowledge provided by the DOE TRU waste generator/storage sites. The WTWBIR describes a process for grouping individual waste streams with similar physical and chemical properties into waste profiles, based on their waste matrix code (WMC) assigned by the DOE TRU waste generator/storage sites. Waste profiles with similar WMCs, are then combined across the DOE TRU waste system to provide estimated total volumes and total waste material parameters. The methodology for this grouping and combining is discussed in detail in Section 2.3, Methodology for Development of Disposal Inventory, of this document.



The individual waste streams also are evaluated to estimate the occurrence and quantities of waste material parameters (e.g., cellulose, plastics, iron-based metals/alloys, etc.) that have been identified by Sandia National Laboratories/New Mexico (SNL/NM) as being potentially important to the performance of the WIPP repository as defined in Appendix G (see Table 1-1). The methodology, assumptions, and totals of these waste material parameters are described in Chapter 6, Waste Material Parameters.

**TABLE 1-1. TECHNICAL DATA NEEDS FOR PERFORMANCE ASSESSMENT
WASTE MATERIAL PARAMETERS**

| Waste Material Parameter | Input Variable in <u>Current</u> SP/PA Models | | Input Variable in SP/PA Models <u>Under Development</u> | Input Variable in Possible <u>Future</u> PA Models |
|------------------------------|---|----------------------------|---|--|
| | Gas Generation | Mechanical Characteristics | | |
| Iron-Based Metals/Alloys | YES | YES | YES | YES |
| Aluminum-Based Metals/Alloys | | YES | YES | YES |
| Other Metals | | YES | | YES |
| Other Inorganic Material | | YES | YES | YES |
| Cellulose | YES | YES | YES | YES |
| Plastics | | YES | YES | YES |
| Rubber | YES ⁽¹⁾ | YES | YES | YES |
| Solidified Inorganic Matrix | | YES | YES | YES |
| Solidified Organic Matrix | | YES | YES | YES |
| Soils | | YES | | |

⁽¹⁾ Only 50 weight percent included

Although the initial purpose of this report is to provide data to be included in the SNL/NM SP and PA processes, all data are presented and explained in such a way that they can be adapted for other applications.

1.3 WASTE INVENTORY TERMINOLOGY

The derivation of a disposal inventory from individual waste streams is a formidable and complex process. To document each step of this process, a system of waste inventory terminology needs to be defined so the reader may more easily follow the process. The following sections provide definitions of terminology used throughout the WTWBIR. These

definitions also are summarized in Appendix A, Glossary, of the WTWBIR. Appendix B provides a list of acronyms and abbreviations used in this document.

1.3.1 Inventory Terminology

Stored Inventory – That part of the TRU inventory currently in retrievable storage as of the time of the last data call for inventory information is known as "stored inventory." Retrievably stored waste includes waste stored in buildings or in berms with earthen cover since 1970 and does not include any waste that was buried prior to 1970 (DOE, 1994b).

Projected Inventory – That part of the inventory that has not been generated but is currently estimated to be generated at some time in the future by the TRU waste generator/storage sites is considered "projected inventory." The estimated timeframe for the projections may vary, but is usually between 20 and 30 years. "Newly generated waste" also is sometimes used as a synonym for the projected inventory.

Anticipated Inventory – For the WTWBIR, this is the sum of the stored and projected inventories, calculated:

$$\begin{array}{ccccccc} \text{Stored} & & & & \text{Projected} & & \text{Anticipated} \\ \text{Inventory} & + & & & \text{Inventory} & = & \text{Inventory} \end{array}$$

Scaling – The process for adjusting the anticipated inventory to the design limit (disposal inventory) of the WIPP repository is called "scaling." Section 2.3.2 describes the scaling process.

$$\text{Anticipated Inventory} \xrightarrow{\text{Scaling}} \text{Disposal Inventory}$$

Disposal Inventory – The total inventory defined for WIPP emplacement (after scaling) to be used for SP and PA calculations is the "disposal inventory."

1.3.2 Waste Matrix Code Terminology

Waste Matrix Code (WMC) – The WMC is a DOE-developed coding system for organizing waste streams by their physical and chemical properties. A WMC is assigned to each waste stream by the DOE TRU waste generator/storage site. The WMC for each waste stream can be found in the Mixed Waste Inventory Report (MWIR) (DOE, 1994a). This coding system allows waste streams within the DOE TRU waste system that have similar physical and chemical waste form properties to be categorized together. WMCs also have been called "waste treatability codes" in other DOE documents. Appendix C contains the DOE guidance document used to help categorize individual waste streams. An example of a WMC for "heterogeneous waste" would be 5400.

Waste Matrix Code Group (WMCG) – A WMCG consists of a series of WMCs that for SP or PA purposes have similar physical and chemical properties. An example of combining WMCs

is the following three WMCs, which either contain particulates or are cemented particulate waste:

- WMC 3100 (inorganic process residues)
- WMC 3110 (inorganic particulates)
- WMC 3150 (solidified process residues)

Because of the restriction on particulate wastes in the *TRU Waste Acceptance Criteria, (WAC) for the Waste Isolation Pilot Plant*, Revision 4.0 (DOE, 1991), all particulate waste will usually be solidified prior to shipment to WIPP. Therefore, all three of these WMCs would be the same basic waste form when emplaced in WIPP and have similar physical and chemical properties. Table 1-2 presents all anticipated WMCs for TRU waste and indicates in which WMCG each WMC occurs for the WTWBIR. There are 11 WMCGs used in this WTWBIR. The last two rows in Table 1-2 group WMCs that will not be acceptable to WIPP unless characterized and/or processed using a yet-to-be-developed treatment technology. The combined WMCG for this example is:

Solidified Inorganic Waste

1.3.3 Waste Profile Terminology

Waste Stream Profile – This is a description of a CH-TRU or RH-TRU waste stream destined for shipment to and disposal in WIPP, if authorized under permits and certifications by appropriate regulatory agencies for disposal in the WIPP repository. The waste stream profile is presented in tabular format and is intended to provide a summary of important information about a particular waste stream. Examples of information included in a waste stream profile are:

- Currently and previously used identification codes, including the DOE TRU waste site identification;
- Assigned WMC;
- Volumes of waste currently in retrievable storage and waste projected to be generated: estimated minimum, average, and maximum weights of waste material parameters per cubic meter of waste volume (e.g., iron-based metals/alloys, aluminum-based metals/alloys, cellulose, etc.);
- Whether the waste is CH-TRU or RH-TRU; and
- Hazardous waste codes (EPA codes) as assigned by the DOE TRU waste generator/storage sites for the RCRA-regulated portion of the waste stream.

Figure 1-2 provides an example of a blank waste stream profile form. The methodology and assumptions for developing waste stream profiles are provided in Chapter 3 and printouts of waste stream profiles are provided in Appendix E.

Site-Specific Waste Profile – This represents a WMCG at a particular DOE TRU waste generator/storage site. That is, one or more waste stream profiles, at a particular DOE TRU waste site, that have been placed in the same WMCG are summarized in the site-specific waste profile. Examples of information included in a site-specific waste profile are:

- DOE TRU waste generator/storage site identification;

| | |
|----------------------------|------------------|
| Inorganics | Iron-Based |
| | Metals/Alloys |
| | Aluminum-Based |
| | Metals/Alloys |
| | Other Metals |
| | Other Materials |
| Organics | Celulosics |
| | Rubber |
| | Plastics |
| Solidified | Organic Matrix |
| | Inorganic Matrix |
| Soils | Soil |
| Packaging Materials | Steel |
| | Plastic |

TABLE 1-2. WASTE MATRIX CODE GROUP NAMES

| Waste Matrix Code Group | Waste Matrix Codes |
|--|--|
| Solidified Inorganic Waste | 1000 ¹ , 1100 ¹ , 1110 ¹ , 1120 ¹ , 1130 ¹ , 1140 ¹ , 1190 ¹ , 1200 ¹ , 1210 ¹ , 1220 ¹ , 1230 ¹ , 1240 ¹ , 1290 ¹ , 3000 ² , 3100, 3110 ³ , 3111 ³ , 3112 ³ , 3113, 3115 ³ , 3116 ³ , 3119 ³ , 3120, 3121, 3122, 3123, 3124, 3125, 3129, 3130, 3131 ³ , 3132 ¹ , 3139 ^{1 or 3} , 3150, 3190, 3900 ² , 6100 ⁴ , 6120 ⁵ , 6130 ⁶ , 6140 ⁵ , 6190 ⁴ , 6200 ⁷ , 6210 ⁸ , 6230 ⁸ , 6290 ⁷ , 7300 ³ , 9100 ² , 9200 ² |
| Salt Waste | 3000 ² , 3140, 3141, 3142, 3143, 3149, 3900 ² |
| Solidified Organic Waste | 2000 ¹ , 2100 ¹ , 2110 ¹ , 2120 ¹ , 2190 ¹ , 2200 ¹ , 2210 ¹ , 2220 ¹ , 2290 ¹ , 2900 ¹ , 3000 ² , 3114, 3200, 3210, 3211, 3212, 3213, 3219, 3220, 3221, 3222, 3223, 3229, 3230, 3290, 3900 ² , 6100 ⁴ , 6110 ⁵ , 6190 ⁴ , 6200 ⁷ , 6290 ⁷ , 9100 ² , 9200 ² |
| Soil | 4000, 4100, 4200, 4900 |
| Unspecified Metal Waste (Metal Waste Other Than Lead and/or Cadmium) | 5000 ⁹ , 5100, 5110, 5190, 6200 ⁷ , 6220 ⁸ , 7000 ¹⁰ , 7490, 9300 ¹⁰ |
| Lead/Cadmium Metal Waste | 5000 ⁹ , 5120, 5130, 6200 ⁷ , 6220 ⁸ , 7000 ¹⁰ , 7200, 7210, 7220, 7400 ¹¹ , 7410 ¹¹ , 7420 ¹¹ , 9300 ¹⁰ |
| Inorganic Nonmetal Waste | 5000 ⁹ , 5200, 5210, 5220, 5230, 5240, 5290 |
| Combustible Waste | 5000 ⁹ , 5300, 5310, 5311, 5312, 5313, 5319, 5320, 5330, 5390 |
| Graphite Waste | 5000 ⁹ , 5340 |
| Heterogeneous Waste | 5000 ⁹ , 5400, 5420, 5430, 5440, 5450, 5490, 6200 ⁷ , 6220 ⁸ , 6290 ⁷ |
| Filter Waste | 5000 ⁹ , 5410 |
| Excluded Waste Streams ¹² | 5250, 5350, 6300, 6400, 7100 |
| Unknown Waste ¹³ | 8000, 8100, 8200, 8900 |

TABLE 1-2. WASTE MATRIX CODE GROUP NAMES (CONTINUED)

¹ Liquid waste streams are assumed to be solidified prior to sending to WIPP. A volume conversion of 2.5:1 is assumed for solidification.

² WMCs 3000, 3900, 9100, and 9200 are placed in "solidified inorganic waste," "salt waste," or "solidified organic waste," depending on the information provided in the MWIR.

³ Particulate waste streams are assumed to be solidified prior to sending to WIPP. A volume conversion of 2.5:1 is assumed for solidifying particulate waste.

⁴ WMCs 6100 and 6190 are placed in "solidified organic waste," or "solidified inorganic waste," depending on the information provided in MWIR. Volume conversion is described in footnotes 5 and 6.

⁵ Liquid lab pack waste is assumed to be solidified prior to sending to WIPP. It is assumed that the packing material in lab packs will be low-level waste when the liquid containers are removed. A volume conversion of 2.5:1 is assumed for solidification.

⁶ Solid lab packs are assumed to be solidified prior to sending to WIPP. It is assumed that the packing material in lab packs will be low-level waste when solidifying. Because lab packs have a 3:1 ratio of waste to absorbent material, it is assumed that when the chemicals are removed from the drum and solidified, there will not be a volume increase.

⁷ WMCs 6200 and 6290 are placed in "solidified inorganic waste," "solidified inorganic waste," or "heterogeneous waste" if the waste stream must be solidified. They are placed in "unspecified metal waste," or "lead/cadmium metal waste" if they are primarily nonreactive metal contaminated with reactive metal. Reactive waste streams must be treated prior to shipment to WIPP.

⁸ Waste stream is assumed to be treated prior to shipment to WIPP. Volume change is dependent of the waste stream and treatment.

⁹ WMC 5000 is placed in "unspecified metal waste," "lead/cadmium metal waste," "inorganic nonmetal waste," "combustible waste," "graphite waste," "heterogeneous waste," or "filter waste," depending on the information in MWIR.

¹⁰ WMC 7000 and 9300 are placed in "unspecified metal waste" or "lead/cadmium metal waste," depending on the information in MWIR.

¹¹ WMCs 7400, 7410, 7420, and 7490 are assumed to be drained of liquid and contain only metal waste.

¹² These waste streams are excluded from disposal in WIPP at this time.

¹³ If adequate information is provided in MWIR, these WMCs are changed. If there is not enough information in MWIR, these waste streams remain as "unknown" and are excluded from disposal in WIPP until characterized.

- The WMCG that the profile represents;
- Listing of the waste streams (represented by waste stream profiles at the site) that are included in the site-specific waste profile, including the waste stream identification and volumes of stored and currently projected waste; and
- Summary of minimum, volume weighted average, and maximum weights of waste material parameters per cubic meter of waste volume (e.g., iron-based metals/alloys, aluminum-based metals/alloys, cellulose, etc.).

Figure 1-3 provides an example of a blank site-specific waste profile form. The methodology and assumptions for developing site-specific waste profiles are provided in Chapter 4 and printouts of site-specific waste profiles are provided in Appendix F.

WIPP Waste Profile – The WIPP waste profile represents a summary of TRU waste at all DOE TRU waste generator/storage sites that have an identical WMCG. Examples of information included in a WIPP waste profile are:

- Profile name;
- The WMCG that the profile represents;
- Listing of the DOE TRU waste sites (represented by the same WMCG) that are included in the WIPP waste profile, including the name of the DOE TRU waste site and volumes of stored and currently projected waste for each site for the particular WMCG represented; and
- Summary of minimum, volume weighted average, and maximum weights of waste material parameters per cubic meter of waste volume (e.g., iron-based metals/alloys, aluminum-based metals/alloys, cellulose, etc.).

Figure 1-4 provides an example of a blank WIPP waste profile form. The methodology and assumptions for developing WIPP waste profiles are provided in Chapter 5.

1.3.4 Database Terminology

Mixed Waste Inventory Report (MWIR) – The MWIR refers to the latest release of information from the MWIR database that supports requirements under the Federal Facilities Compliance Act (FFCA) of 1992 (Public Law 102-386). The latest version of the MWIR documentation/files is *Distribute [Distribution] of Phase II Mixed Waste Inventory Report Data*, dated May 17, 1994 (DOE, 1994a). This information replaces the MWIR Phase I release (DOE, 1994c).

Integrated Data Base (IDB) – The IDB refers to the latest version of the *Integrated Data Base for 1993: U.S. Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics* (DOE, 1994b).

Nonradionuclide Inventory Database (NID) – The NID is the database of nonradionuclide constituents in the TRU inventory that was originally developed by International Technology Corporation (IT) during 1988/1989 in support of the SNL/NM PA effort. A summary of the database was transmitted to SNL/NM in a letter report dated May 1989 (WIPP PA, 1991). A

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES

30-Jun-94

| <u>WASTE PARAMETERS FOR Heterogeneous Waste</u> | | | |
|---|------------------------------------|-----------------------|----------------------------------|
| <u>WASTE STREAM ID</u> | <u>RETRIEVABLY STORED (m3)</u> | <u>PROJECTED (m3)</u> | <u>TOTAL PER STREAM (m3)</u> |

| <u>Material Parameters (kg/m3)</u> | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|------------------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | | |
| | Plastic | | | |

Figure 1-3. Blank Site-Specific Waste Profile Form

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|-------------|----------------------|----------------------|------------------------------|
|-------------|----------------------|----------------------|------------------------------|

CH TOTALS:

| <u>Material Parameters (kg/m3)</u> | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|------------------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | | |
| | Plastic | | | |

Figure 1-4. Blank WIPP Waste Profile Form

copy of the NID waste stream information used in the WTWBIR is included in Appendix D.

In cases where additional information/process knowledge was used that is not contained in the three databases just mentioned, the source of the information will be included in the text.

1.3.5 Other Terminology

Waste Material Parameter – This is a waste material that occurs in TRU waste that is an input parameter into one or more current SP or PA models, an SP or PA model under development, a potential future model, or is required to adequately describe the waste form (see Section 3.3.1). The 10 waste material parameters and packaging materials that are defined and included in the WTWBIR are:

- Inorganics
 - Iron-based metals/alloys
 - Aluminum-based metals/alloys
 - Other metals
 - Other inorganic materials
- Organics
 - Cellulosics
 - Rubber
 - Plastics
- Solidified Materials
 - Inorganic matrix
 - Organic matrix
- Soils
- Packaging Materials
 - Steel
 - Plastic or lead

Definitions for these waste material parameters can be found in Chapter 6.

1.4 OBJECTIVES

The objectives of the WTWBIR are threefold:

1. **Establish a methodology for grouping wastes of similar physical and chemical composition.** A methodology for grouping wastes of similar physical and chemical properties into "waste profiles" will provide a common frame of reference for discussion of TRU waste issues with regulatory organizations.
2. **Define the anticipated disposal inventory of TRU wastes destined for WIPP.** The anticipated inventory of CH-TRU and RH-TRU wastes is defined as the sum of the existing volumes of stored and currently projected waste streams at each of the TRU waste generator/storage sites. Because the existing stored and currently projected waste streams do not contain sufficient volume (CH-TRU waste only) to fill the allowed capacity of WIPP, calculated: $6.2 \times 10^6 \text{ ft}^3$ ($\sim 1.76 \times 10^5 \text{ m}^3$) (Public Law 102-579, 1992), scaling of the CH-TRU waste anticipated inventory is necessary to attain the WIPP design limit. Additionally,

there is a high uncertainty in and a current lack of data on waste produced by decontamination and decommissioning (D&D) and environmental restoration (ER) activities. Therefore, the anticipated inventory has been scaled to the WIPP capacity (disposal inventory). The scaling of the inventory in future revisions of the WTWBIR will be derived from the best available data and assumptions.

3. **Calculate the disposal inventory in terms of waste material parameters.** Several waste material parameters (e.g., iron-based metals/alloys, rubber, plastics, etc.) have been identified as being potentially significant in relation to the performance of the WIPP repository (see Table 1-1). Calculating the WIPP disposal inventory in terms of these parameters provides input for the SP and PA calculations and sensitivity analyses needed to determine compliance with federal standards.

1.5 BASELINE INVENTORY UPDATES

The WTWBIR represents the best available TRU waste inventory information in support of the WIPP Project. It is anticipated that the WTWBIR will be updated periodically. This update cycle will be modified based on the availability of additional waste information or the data needs of the WIPP Project.

1.6 DOCUMENT ORGANIZATION

The WTWBIR is organized into chapters of text, figures, tables and supporting appendices. It flows from specific, detailed TRU waste information (provided by the TRU waste generator/storage sites) to the development and description of waste profiles and waste material parameters. The contents of remaining chapters in this document are summarized in the following:

- Chapter 2 discusses the three main databases and the methodology used to define the TRU waste disposal inventory.
- Chapter 3 describes the correlation of individual waste streams among the three databases and outlines the methodology and assumptions used to derive waste stream profiles.
- Chapter 4 describes the WMCGs used to combine waste stream profiles with similar physical and chemical properties to provide site-specific waste profiles, and provides estimations of non-mixed TRU waste volumes derived from the waste stream profiles identified in Chapter 3.
- Chapter 5 discusses the methodology for "rolling up" the site-specific waste profiles into WIPP waste profiles. Total weights per volume of waste material parameters are provided for each of the WIPP waste profiles. Radionuclide totals in curies are provided from site-specific data.
- Chapter 6 rolls up the waste material parameter information assigned at the waste stream profile level in Chapter 3 to obtain parameter totals. These totals are presented as parameter weights per volume.

- Chapter 7 lists references cited in the WTWBIR.
- Several appendices also are provided to either present more detailed waste inventory information or to describe the methodology in more detail. The appendices are provided in Book 2 of this WTWBIR.

CHAPTER 2

2. TRU WASTE DISPOSAL INVENTORY

2.1 INTRODUCTION

The TRU waste disposal inventory is derived from existing information on waste, which has been provided by the DOE TRU waste generator/storage sites and is predominately based on process knowledge. This chapter is designed to assist the reader by describing the existing waste information used to derive the inventory and developing the methodology used to correlate and combine the existing data into a WIPP disposal inventory.

2.2 SOURCES OF TRU WASTE INFORMATION

Several sources of information have been used to compile the WTWBIR. The three primary databases used are: (1) the MWIR (DOE, 1994a) (see Appendix H), (2) the IDB (DOE, 1994b), and (3) the NID (summarized in Appendix D). Although the bulk of the information used to compile the inventory was extracted from these three databases, several other resources also were used. These are the *Transuranic Package Transporter-II (TRUPACT-II) Content Codes* (TRUCON) (DOE, 1992), the *No-Migration Variance Petition* (NMVP) (DOE, 1990), and the draft *RCRA Part B Permit Application* (DOE, 1993a). These sources are discussed further in the following sections.

2.2.1 Mixed Waste Inventory Report

The FFCA of 1992 (Public Law 102-386, 1992; Section 105) required that the DOE, within 180 days of enactment of the FFCA, submit to the EPA Administrator and the governor of each state in which the DOE stores or generates mixed wastes a report that contains:

- National inventory report of all mixed wastes, regardless of the time they were generated, on a state-by-state basis and
- National inventory of mixed waste treatment capacities and technologies.

The FFCA also stipulated specific reporting requirements for each of these inventories. The DOE submitted the six-volume set entitled: *U.S. Department of Energy Interim Mixed Waste Inventory Report: Waste Streams, Treatment Capacities and Technologies*, DOE/NBM-1100, dated April 1993 (DOE, 1993b), to fulfill these requirements. Since issuance of the "interim" report, DOE has requested additional information from the DOE TRU waste generator/storage sites and published two updated reports entitled:

- *Release of Phase I Mixed Waste Inventory Report Data*, dated April 1, 1994 (DOE, 1994c), which includes a data diskette (Version .97B) and the draft *Mixed Waste Inventory Report Data Base System User's Guide*.
- *Distribute [Distribution] of the Phase II Mixed Waste Inventory Report Data*, dated May 17, 1994 (DOE, 1994a), which includes a data diskette (Version 1.00) and the draft *User's Guide for National Data Base System for the Final Mixed Waste Inventory Report* (May 1994).

The waste-stream specific information contained in the Phase II MWIR report is the basis for defining waste streams and building a CH-TRU and RH-TRU waste disposal inventory for

WIPP. The Phase II MWIR report has the following information about each mixed TRU waste stream by generator/storage site:

- Physical and chemical description,
- Retrievably stored and projected inventory volumes (in cubic meters),
- Source of the waste stream (including process descriptions),
- Toxic Substances Control Act (TSCA) constituents,
- Hazardous (EPA) waste codes,
- Radionuclide characterization data (generally qualitative), and
- WMCs for treatability, developed by the DOE to group waste streams with similar physical and chemical properties (see Appendix C).

Although the Phase II MWIR contains fields for all the information listed here, some fields are left blank or limited information is provided by the sites. Volumes, RCRA constituents, and WMCs are provided for each waste stream reported. Generally, the TRU waste generator/storage sites provide some information in the other fields, but its completeness ranges from very detailed to extremely sparse. Source information, TSCA constituents, and radionuclide characterization fields often contain incomplete information or are left blank.

The Phase II MWIR (DOE, 1994a) database is used for this revision of the WTWBIR for mixed TRU waste streams. Idaho National Engineering Laboratory (INEL) non-mixed TRU waste stream information from the Phase I MWIR (DOE, 1994c) is used to define non-mixed waste streams for TRU waste at INEL.

2.2.2 Nonradionuclide Inventory Database

The NID was developed in 1988/1989 by IT for SNL/NM in support of initial PA calculations. This database defines each waste stream that was planned for WIPP disposal in 1989, on which sufficient information existed about the waste materials. Most waste streams in the NID also are described in detail in the TRUCON document (DOE, 1992). The NID contains estimated numerical information (minimum, maximum, and average weights), based on process knowledge and limited visual examination (a qualitative technique that involves human judgment) on many different types of waste materials for each waste stream included in the database.

The waste material parameters listed in Section 1.3.5 occur in the NID and are the emphasis of the waste stream profile. Although these waste material parameters are deemed important for SP and PA model evaluations, their effect on repository performance may prove to be insignificant as determined by sensitivity analyses.

The NID information was summarized in 1989 for inclusion in the PA calculations (WIPP PA, 1991). Most of the information (except that for the waste material parameters) has been superseded by the MWIR database. The waste material parameter information used to define the WTWBIR is presented in Appendix D.

2.2.3 Integrated Data Base

In the IDB, radionuclide inventory is reported at the top level only (at the TRU waste site level). The IDB is published by Oak Ridge National Laboratory (ORNL) for the DOE. The ORNL assembles radioactive waste inventories provided by DOE TRU waste generator/storage sites. The IDB contains site inventory estimates for retrievably stored and currently projected waste (i.e., waste projections are made for 1993 until the year 2020). This database does not report by waste stream, but rather, by the total inventory at each DOE site. The IDB also contains the radionuclide isotopic distribution for the waste generated/stored at each site. Because consistent reporting is not available at the waste stream level in the MWIR, the radionuclide information in the IDB is the basis for the WTWBIR inventory for radionuclides.

2.2.4 Other Sources of TRU Waste Information

The three main databases described here in Section 2.2.1, MWIR (DOE, 1994a); Section 2.2.2, IDB (DOE, 1994b); and Section 2.2.3, NID (WIPP PA, 1991), represent the bulk of the data used to build the WIPP disposal inventory. Table 2-1 lists the information that was used from each database to compose the waste stream profiles for each TRU waste stream in the MWIR. In addition to the database records, several other resources have been used. These include:

- TRUCON (DOE, 1992) – Waste streams that are included in TRUCON have been indicated by recording the designation in the waste stream profile for each MWIR waste stream (see Appendix E).
- NMVP (DOE, 1990) – Waste streams that are covered by the NMVP have been indicated by recording the designation in the waste stream profile for each MWIR waste stream (see Appendix E).
- RCRA Part B Permit Application (DOE, 1993a) – Waste streams across the DOE TRU system have been summarized in the WIPP RCRA Part B Permit Application by general categories. The name of these general categories has been included on the waste stream profile for each MWIR waste stream (see Appendix E).

2.3 METHODOLOGY FOR DEVELOPMENT OF DISPOSAL INVENTORY

Development of the WIPP TRU waste disposal inventory is accomplished by a series of steps starting with the individual waste streams identified in the MWIR (DOE, 1994a). These waste streams are grouped together, based on similar physical and chemical properties, into common "waste profiles," which should facilitate discussions concerning the disposal waste inventory with regulatory agencies and stakeholders. The waste profiles also contain information on waste material parameters that could affect the performance of the WIPP repository and that, therefore, may be direct inputs to SP and PA models. A more detailed explanation of these processes is found in the following sections.

TABLE 2-1. SOURCES OF INFORMATION FOR WASTE STREAM PROFILES

| Mixed Waste Inventory Report ¹ | Nonradionuclide Inventory Database ² | Integrated Data Base ³ |
|---|--|---|
| Definition of Individual Waste Streams, Waste Stream IDs, and Item Description Codes (IDCs) | Waste Material Parameter Information: Minimum, Average, and Maximum Weight Estimates/Unit Volume | Volumes of Total TRU Waste: Stored and Projected ⁴ |
| Field Office | | |
| RH/CH | | |
| Waste Stream Name, Waste Description | | |
| Waste Matrix Code | | |
| Volumes of Mixed TRU Waste: ⁴ Stored and Projected | | |
| Hazardous Waste Codes (EPA Codes) | | |

¹ Phase II MWIR (DOE, 1994a).

² A summary of the database output is provided as Appendix D.

³ Current version is Revision 9, published March 1994.

⁴ For INEL, the Phase I MWIR also contains non-mixed TRU waste volumes.

2.3.1 Estimation of Anticipated Inventory

The anticipated inventory is the sum of the stored and currently projected wastes including the non-mixed waste that is **not** included in the MWIR (DOE, 1994a). The methodology for deriving the anticipated inventory is as follows:

- Approximately 260 individual TRU waste streams are defined in the Phase II MWIR (DOE, 1994a). Each of these waste streams is identified in the WTWBIR as a waste stream profile (see Appendix E). These waste stream profiles were developed using information from the sources listed in Section 2.2; these profiles are the lowest tier of information in the WTWBIR. Five TRU waste streams are used throughout this report to illustrate the methodology for this process.
- Each waste stream in the MWIR has been assigned a WMC by the TRU waste generator/storage site that defines the general physical and chemical properties of the waste. The WMC is located in the upper portion of each waste stream profile. The assignment of the WMC is based on DOE guidance, which can be found in Appendix C.
- Waste streams at each TRU waste generator/storage site with similar WMCs can be grouped together into a site-specific waste profile. The methodology for grouping waste streams is shown in Figure 2-1. The grouping of individual waste stream profiles into a site-specific waste profile is based on the similar physical and chemical properties of the waste streams and how that information is used in the SP and PA models. In the

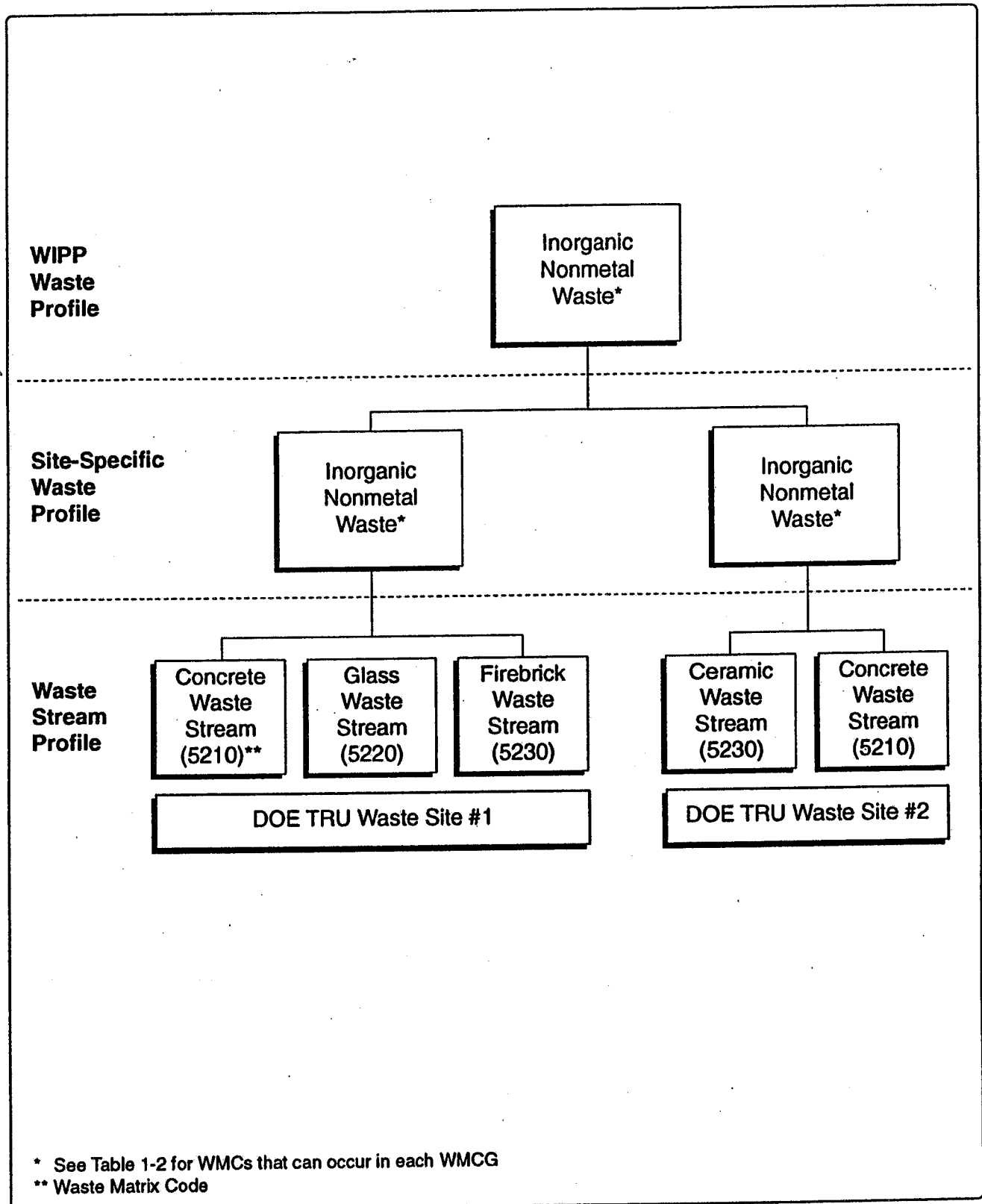


Figure 2-1. Schematic of Waste Stream Profile Methodology

example in Figure 2-1, due to their similar mechanical properties, concrete waste, glass waste, firebrick waste, and ceramic waste mainly influence the estimation of porosity and permeability in the SP and PA calculations. Therefore, the three waste streams at DOE TRU Waste Site #1 and the two at DOE TRU Waste Site #2 can be grouped together at each site based on similar physical and chemical properties and placed into the site-specific waste profile "inorganic nonmetal waste," with the WMCG defined in Table 1-2.

A more detailed description of the methodology for grouping waste stream profiles into site-specific waste profiles is presented in Section 4.3 and is illustrated with examples of five actual TRU waste streams. There are a maximum of 11 possible CH-TRU and RH-TRU site-specific waste profiles at any generator/storage site; however, most sites have fewer profiles due to differences in waste segregation practices. All the site-specific waste profiles for TRU waste are provided in Appendix F.

- Site-specific waste profiles from different waste generator/storage sites that contain the same WMCG (e.g., inorganic nonmetal waste for the example in Figure 2-1) can be combined together into a WIPP waste profile similar to that presented in Figure 2-1. As with site-specific waste profiles, there can only be a maximum of 11 possible WIPP waste profiles for CH-TRU or RH-TRU waste.
- Definition of the anticipated WIPP inventory is based on summing volumes of waste from each DOE TRU waste generator/storage site by site-specific waste profiles to synthesize the overall WIPP waste profiles. In the example in Figure 2-1, the inventories of inorganic nonmetal waste for Site #1 and Site #2 are added together to define a WIPP waste profile. To define the anticipated total WIPP inventory for inorganic nonmetal waste, all site-specific waste profiles for this waste category are combined to determine the WIPP waste profile for inorganic nonmetal waste.
- The anticipated inventory of TRU wastes for disposal at WIPP is determined from stored and currently projected waste streams as identified in the MWIR (DOE, 1994a) and/or the IDB (DOE, 1994b). The MWIR reports only volumes of mixed TRU waste. To estimate the volume of non-mixed TRU waste, the MWIR volumes by TRU waste site were subtracted from the 1993 IDB total volumes. The resultant total, which was always positive, was assumed to be non-mixed TRU waste.

In the Phase I MWIR (DOE, 1994c), INEL reported non-mixed TRU waste streams. These waste streams and their associated volumes have been used instead of the extrapolation of non-mixed TRU waste from the difference in volume of the MWIR and IDB.

Because the non-mixed TRU waste volumes are derived by the difference between the IDB and the MWIR, there are no WMCs associated with these volumes. Generally, mixed TRU and non-mixed TRU waste streams have similar physical and chemical properties. Based on this assumption, the non-mixed TRU waste was proportionally distributed among the predominant WMCs for each site using the combined stored and projected volumes. Therefore, the volumes reported in the site-specific waste profiles include both mixed and non-mixed TRU wastes. Appendix F provides a percentage breakout of mixed TRU and non-mixed TRU waste by site and WMCGs.

2.3.2 Estimation of Scaling Factor

Because the existing stored and currently projected waste streams, including non-mixed TRU waste, do not contain sufficient volume to fill the allowed capacity of WIPP, $6.2 \times 10^6 \text{ ft}^3$ ($\sim 1.76 \times 10^5 \text{ m}^3$) (Public Law 102-579, 1992), scaling of the CH-TRU inventory is necessary to attain the WIPP capacity. The scaling is accomplished by:

- The anticipated inventory (as defined in Section 1.3.1) consists of 11 overall CH-TRU and RH-TRU WIPP waste profiles based on the physical and chemical properties of the waste streams. The sum of the anticipated inventory is subtracted from the allowable WIPP inventory ($1.76 \times 10^5 \text{ m}^3$) and divided by the anticipated inventory, then added with 1:

$$\frac{1.8\text{E} + 05 \text{ m}^3 - \text{anticipated inventory}}{\text{anticipated inventory}} + 1 = \text{scaling factor}$$

The scaling of the inventory, in future revisions of the WTWBIR, will include volumes of waste anticipated from D&D and ER activities as these estimates are made available.

2.3.3 Estimation of Disposal Inventory

The disposal inventory is the total inventory to be used in SP and PA calculations. To calculate the disposal inventory by WMCG, the anticipated inventory is multiplied by the scaling factor for each WMCG and summed together. See Section 5.3 for further details.

2.3.4 Estimation of Waste Material Parameters

Some waste materials that exist in TRU waste may degrade, to some extent, over the 10,000-year period for performance modeling (WIPP PA, 1993). Some waste may produce gas by either chemical, microbial, or radiolytic degradation processes. The WIPP SP and PA models will evaluate the impacts of these processes on repository performance. The waste material parameters that are direct inputs into the SP process and PA models or potential models being considered or developed have been included in the WTWBIR and are documented in Section 6.2. These parameters will be evaluated in the SP process and PA modeling to determine the sensitivity of each parameter to repository performance.

Each TRU waste stream identified in the MWIR (DOE, 1994a) was reviewed. An example of a Phase II MWIR printout can be found in Appendix H. The item description codes (IDCs) and general waste information in the MWIR were compared with the NID (see Appendix D). The comparison of the MWIR and NID information on a waste stream basis resulted in one of two scenarios:

1. The MWIR waste stream correlates directly with NID waste stream.
2. The MWIR waste stream does not correlate directly with NID waste stream.

If a direct match was made between a waste stream in the MWIR and a waste stream in the NID (i.e., both had the same IDC), the waste parameter information from the NID was used in the waste stream profile for the MWIR waste stream. This information included the minimum, average, and maximum quantities of waste material parameters reported within the waste stream. If there was not a direct match, a comparison of the general waste information

between the MWIR and the NID was used to assign a waste material parameter distribution from another waste stream in the NID to the one under consideration in the MWIR to produce the waste stream profile. A more detailed explanation of the methodology used for assignment of waste material parameter information is provided in Section 3.3 and Appendix J.

CHAPTER 3

3. WASTE STREAM PROFILE METHODOLOGY

3.1 INTRODUCTION

The lowest tier of information in the WTWBIR is the waste stream profile, which documents specific information for each separate waste stream identified in the MWIR at each DOE TRU waste generator/storage site. In order to develop a waste characterization package for each waste stream at each site, it was necessary to correlate the information between the MWIR, NID, and IDB. Because these databases were generated at different times to meet different requirements, the nomenclature, waste description codes, waste groupings, and waste streams can be different in each database.

3.2 WASTE STREAM PROFILE DESCRIPTION

Each DOE waste stream was reviewed and, using the MWIR (DOE, 1994a) waste streams as the basis, those which were identified as acceptable for disposal under the WIPP WAC (DOE, 1991) were developed into waste stream profiles. Figure 3-1 provides an example TRU waste stream profile for a waste stream at INEL. In addition to presenting the quantity of waste material parameters in each DOE waste stream, the waste stream profile also provides a cross-reference table (top of the waste stream profile form) to list the different nomenclature used in previously generated DOE documents to identify the waste stream. Appendix K provides a cross correlation table for an MWIR waste stream with the NMVP, the draft *RCRA Part B Permit Application*, and the TRUCON. Table 3-1 lists the fields utilized on the waste stream profile, the sources of the information, and a short explanation of the data located in a particular field. A complete set of the waste stream profiles is provided in Appendix E.

In development of the MWIR, DOE directed the TRU waste generating/storage site to append their hazardous waste codes (EPA codes) to further define the waste in order to develop an appropriate treatment technology. These code designations and descriptions are presented in Appendix M. For example, D003 is defined by EPA as reactive. DOE further defined this code as D003A (reactive cyanide), D003B (reactive sulfides), D003C (explosives), D003D (water reactives), and D003E (other reactives). Other EPA codes are further defined as listed in Appendix M.

There are three waste volumes reported in the waste stream profiles: retrievable, projected, and total. On some waste stream profiles there can be a rounding error. If retrievable plus projected do not equal the total, it is due to a rounding error.

3.3 WASTE STREAM PROFILE METHODOLOGY AND ASSUMPTIONS

3.3.1 Assignment of Waste Material Parameters to MWIR Waste Stream

Each waste stream described in the MWIR (DOE, 1994a) is evaluated to determine the physical and chemical properties of the waste. This information is then compared with the NID (Appendix D). As a result of this comparison, two scenarios are possible (see Appendix J):

1. **MWIR Waste Stream Correlates Directly with NID Waste Stream** – If the MWIR waste stream has a direct correlation with a NID waste stream (i.e., they both have the same

WASTE STREAM PROFILES (CONTINUED)

29-Jun-94

| | | | | | |
|--------------------------------|--|-------------------------|--------------|--------------|-------|
| DATABASE WS ID | IN-W169 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): DRY PAPER AND RAGS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 216 | | | | |
| WASTE MATRIX CODE - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES | | |
| - Group | Heterogeneous Waste | TRUCON | ID 216 | | |

IDC's
 Site ID-EGG-114T-330
 Assigned RF-831

WASTE VOLUMES (cu. m.)

| | |
|--------------|-------------|
| Retrievable | 5775 |
| Projected | 0 |
| Total | 5775 |

EPA CODE(s)

| |
|-------|
| F001 |
| D008A |
| D008C |
| D022 |
| D029 |
| F001 |
| F001 |
| F003 |
| F001 |
| F003 |
| F001 |
| F005 |
| F005A |
| F002 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| | Organics Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 3-1. Example of TRU Waste Stream Profile from Idaho National Engineering Laboratory

IDC), the waste parameter information from the NID is placed on the waste stream profile for that particular waste stream.

2. **MWIR Waste Stream Does Not Correlate with NID Waste Stream** – If the MWIR waste stream does not have a direct correlation with a NID waste stream (i.e., IDCs do not match), the Waste Stream Description (See Section 2.2 in Appendix H) and the Specific Matrix Constituents (See Section 4.2 in Appendix H) are examined to determine the physical and chemical properties of the waste stream. Based on that information, a NID waste stream is found that closely approximates the MWIR waste stream description. The waste material parameter data from the similar NID waste stream are assigned to the particular waste stream profile.

3.3.2 Assignment of WMC to MWIR Waste Stream

The DOE TRU waste generator/storage sites have assigned an overall WMC to each waste stream based on the current form of the waste (see Section 4.1 in Appendix H). The WIPP Project has developed the WIPP WAC (DOE, 1991) for any waste packages to be shipped to WIPP to ensure the safe handling and emplacement in the WIPP. In general, the waste forms acceptable for emplacement in WIPP are described in Table 1-2. For the purpose of this document, waste streams that are in a physical or chemical form that is unacceptable for WIPP disposal are assumed to be processed to meet WIPP WAC. To accomplish the grouping of WMCs, the waste streams were evaluated as follows:

- Documented physical and chemical properties were revised as described in the MWIR database.
- If the waste stream documentation was sufficient, a treatment was assumed for the waste stream (e.g., solidification of inorganic liquids [1000 series] or organic liquids [2000 series]) and grouped with similar WMCs. Other waste streams in the 6000, 7000, 8000, and 9000 series have also been grouped with the 3000, 4000, or 5000 series using similar methodology to address any waste characteristics that would be unacceptable for emplacement in WIPP. Some sites have reported "unknown" (e.g., WMC 8900) for some waste streams. In a few cases, WMCs have been assigned through expert judgement to the waste stream when sufficient information has been included in the waste stream description. Any waste streams that have been changed from "unknown" to another WMC have been documented on the waste stream profiles. Those waste streams that cannot be placed in a new WMC have been grouped together under the WMC 8900. The "unknown" waste streams are documented as part of the WIPP inventory, but are not used in any of the scaling of TRU waste volumes necessary to fill WIPP to its design capacity. "Unknown" wastes will have to be characterized and may require treatment prior to emplacement in WIPP.
- The TRU waste generator/storage sites have identified several waste streams that are regulated under the TSCA (i.e., containing asbestos or polychlorinated biphenyls [PCBs]). Because the concentration of the asbestos and/or PCBs is unknown, it is assumed that these waste streams cannot be accepted at WIPP under the proposed draft WIPP RCRA Part B Permit Application. These waste streams are summarized in Table 3-2 and are not included in the WTWBIR.

TABLE 3-1. SOURCES OF INFORMATION USED IN WASTE STREAM PROFILES

| INFORMATION FIELD | SOURCE OF INFORMATION | EXPLANATION |
|---|--|--|
| Data Base WS ID | MWIR Database | Unique identification number for waste stream in MWIR database |
| Handling: RH/CH | MWIR Database | Identifies whether waste stream is classified as CH or RH |
| Field Office | MWIR Database | Identifies DOE field office responsible for management of waste streams |
| WS Name | MWIR Database | Name of waste stream provided by TRU waste site |
| NMVP | NMVP, Table 2-1 | Provided as cross reference to waste streams included in the NMVP |
| WMC - Site | MWIR Database | WMC for waste stream provided by the waste generator/storage sites |
| WMC - Group | MWIR Database | Groups WMCs with similar chemical and physical characteristics |
| WIPP Part B Permit Application | WIPP draft RCRA Part B Permit Application, Waste Analysis Plan, Revision 3 | Provided as cross reference to waste streams in the WIPP draft RCRA Part B Permit Application |
| TRUCON | TRUCON | Provided as cross reference to waste streams in the TRUCON |
| Site IDC | MWIR Database | Waste stream identification at site |
| Assigned IDC | TRUCON | IDC assigned to correlate the MWIR database to the NID |
| Waste Volumes | 1993 IDB and/or MWIR Database | Provides estimates of retrievable stored and projected volumes of TRU and mixed TRU wastes, if available |
| Waste Parameters (paper, plastic, metal...) | NID | Provides weight estimates of selected waste materials in a particular waste stream |
| Hazardous Waste (EPA) Codes | MWIR Database | Documents hazardous waste codes (EPA) provided by TRU waste sites and recorded in the MWIR database |
| Notes/Specific Assumptions | Applicable Reference | Documents any waste-stream specific assumptions |

Key: WS = waste stream ID = identification

- All "particulate" wastes have been assumed to be solidified prior to shipment to WIPP.
- Rocky Flats Plant (RFP) residue wastes are included in the MWIR, and are reported at the volumes represented in *Removing Plutonium Residues from Rocky Flats Will Be Difficult and Costly*, a U.S. General Accounting Office (GAO) report to Congress (GAO, 1992). Many of these wastes will have to be repackaged or treated to meet the WIPP WAC, which will result in a volume change.

TABLE 3-2. TOXIC SUBSTANCES CONTROL ACT (TSCA) TRU WASTE

| UNIQUE WS | WASTE STREAM NAME | ASBESTOS | PCBs |
|--------------|------------------------------------|----------|------|
| IN-W208 | Composite Filters | Yes | No |
| IN-W209 | Composite Filters | Yes | No |
| IN-W210 | Asbestos Waste | Yes | No |
| IN-W211 | Composite Filters | Yes | No |
| IN-W212 | Composite Filters | Yes | No |
| IN-W213 | Composite Filters | Yes | Yes |
| IN-W309 | Absorbed Organic Liquids | Unknown | Yes |
| RF-W001 | Predominantly Metal Waste | No | Yes |
| RL-W071 | Predominantly Metal Waste | Yes | No |
| RL-W073 | Predominantly Metal Waste | No | Yes |
| RL-W076 | Predominantly Combustible Waste | No | Yes |
| RL-W084 | Organic Lab Packs | No | Yes |

CHAPTER 4

4. SITE-SPECIFIC WASTE PROFILE METHODOLOGY

4.1 INTRODUCTION

Waste streams with similar physical and chemical properties can be grouped together using WMCs. For example, the following four waste streams from INEL are identified in Figure 4-1:

- Dry paper and rags (IN-W169);
- Combustible equipment boxes (IN-W203);
- Benelex and Plexiglas (IN-W225); and
- Miscellaneous paper, metal, etc., (IN-W285).

These waste streams are all "heterogeneous waste" and can be combined into one site-specific waste profile because it is assumed that for long-term compliance purposes (i.e., SP and PA modeling inputs), all four waste streams have essentially the same physical and chemical properties. At INEL, there are additional waste streams grouped under the "heterogeneous waste" profile; but only these four have been included to simplify the example.

For the other site example identified in Figure 4-1, the combustibles waste stream profile RF-W012 is the only one that occurs in the "heterogeneous waste" classification and is, therefore, placed under that site-specific waste profile for the RFP. This methodology of grouping waste streams by WMCs is similar at each DOE TRU waste generator/storage site.

4.2 SITE-SPECIFIC WASTE PROFILE DESCRIPTION

A site-specific waste profile is developed at each of the TRU waste generator/storage sites for each of the WMCGs (listed previously in Table 1-2) that have individual waste streams at each site. These site-specific waste profiles provide a rollup of the waste material parameter and volume information found in the waste stream profiles for each site.

4.3 SITE-SPECIFIC WASTE PROFILE METHODOLOGY

The general methodology for combining waste streams at a site into WMCGs is similar to that shown in Figure 4-1. The WMCGs are then converted directly into site-specific waste profiles to be used to build the WIPP disposal inventory. An example site-specific waste profile is presented in Figure 4-2 using the IN example waste streams from Figure 4-1. Table 4-1 lists the sources of information for site-specific waste profiles. All site-specific waste profiles are provided in Appendix F.

4.3.1 Grouping of WMCs

For the purposes of this document, 11 WMCGs have been identified. The WMCGs were developed by combining waste streams with similar physical and chemical properties by using WMCGs as defined in the *DOE Waste Treatability Groups Guidance* (see Appendix C) and after reviewing the individual waste stream descriptions in the MWIR. Table 1-2 (in Chapter 1) displays the WMCGs and associated WMCs.

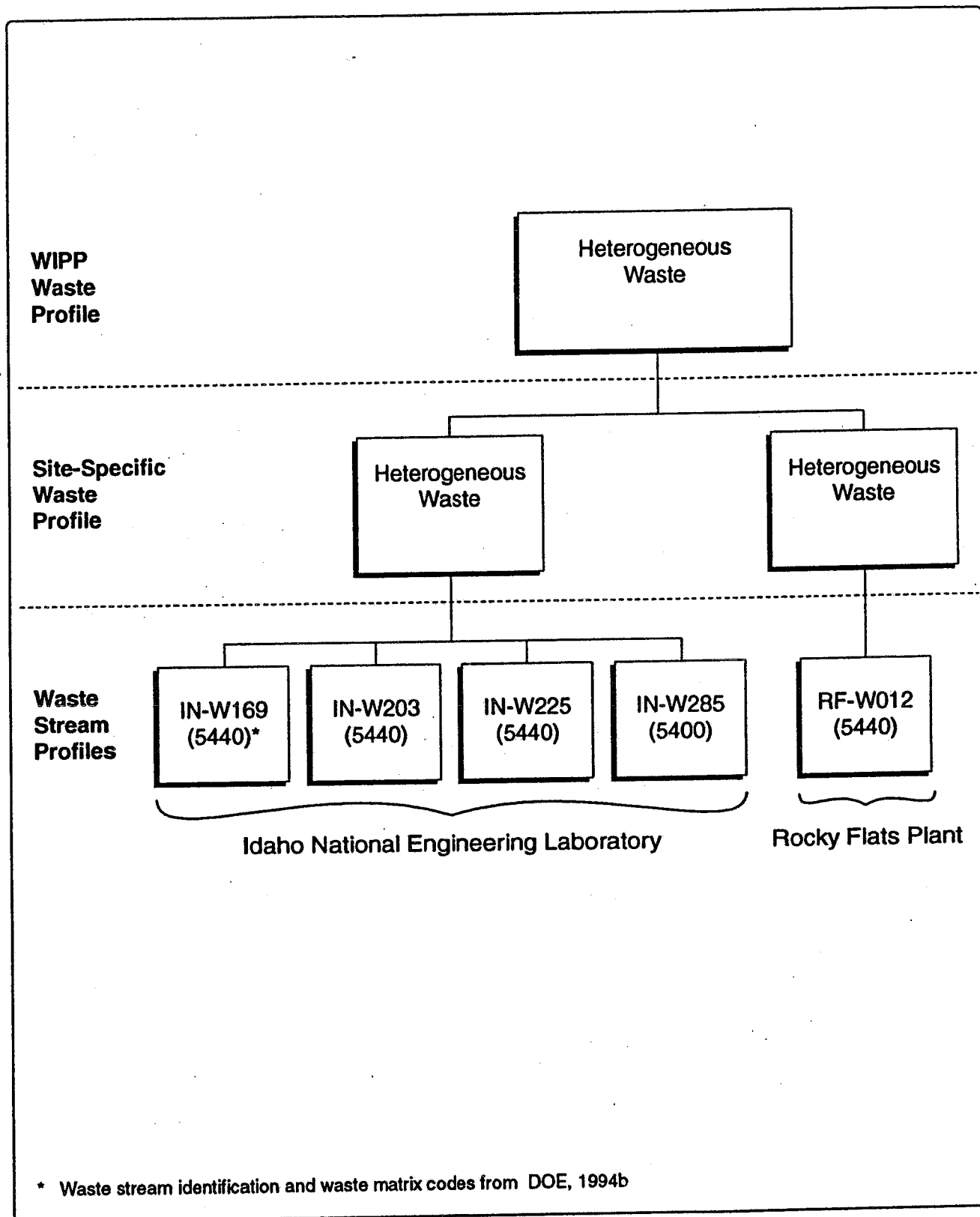


Figure 4-1. Waste Profile Methodology for Example Waste Streams

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES

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| WASTE PARAMETERS FOR Heterogeneous Waste | | | |
|---|------------------------------------|-----------------------|----------------------------------|
| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
| IN-W283 | 1.06 | 0.00 | 1.06 |
| IN-W281 | 370.89 | 0.00 | 370.89 |
| IN-W278 | 13.95 | 0.00 | 13.95 |
| IN-W345 | 14.59 | 0.00 | 14.59 |
| IN-W163 | 0.85 | 0.00 | 0.85 |
| IN-W351 | 1.48 | 0.00 | 1.48 |
| IN-W334 | 5.51 | 0.00 | 5.51 |
| IN-W259 | 58.84 | 0.00 | 58.84 |
| IN-W265 | 53.15 | 0.00 | 53.15 |
| IN-W269 | 25.86 | 0.00 | 25.86 |
| IN-W160 | 5774.64 | 0.00 | 5774.64 |
| IN-W199 | 1.27 | 0.00 | 1.27 |
| IN-W306.3 | 3465.00 | 0.00 | 3465.00 |
| IN-W302 | 106.00 | 0.00 | 106.00 |
| IN-W186 | 2695.14 | 0.00 | 2695.14 |
| IN-W187 | 0.21 | 0.00 | 0.21 |
| IN-W291 | 770.09 | 0.00 | 770.09 |
| IN-W189 | 6.15 | 0.00 | 6.15 |
| IN-W172 | 165.57 | 0.00 | 165.57 |
| IN-W225 | 22.20 | 0.00 | 22.20 |
| IN-W171 | 3.59 | 0.00 | 3.59 |
| IN-W203 | 79.89 | 0.00 | 79.89 |
| IN-W204 | 1.91 | 0.00 | 1.91 |
| IN-W170 | 0.42 | 0.00 | 0.42 |
| IN-W289 | 25.36 | 0.00 | 25.36 |
| IN-W285 | 64.90 | 0.00 | 64.90 |
| IN-W329 | 1.27 | 0.00 | 1.27 |
| IN-W271 | 0.42 | 0.00 | 0.42 |
| IN-W187 | 778.34 | 0.00 | 778.34 |
| | 14508.55 | 0.00 | 14508.55 |

| Material Parameters (kg/m3) | | Max | Average | Min |
|------------------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 41.40 | 0.00 |
| | Aluminum-based Metals/Alloys | 38.22 | 0.48 | 0.00 |
| | Other Metals | 46.63 | 0.16 | 0.00 |
| | Other Inorganic Materials | 3072.12 | 5.20 | 0.00 |
| Organics | Cellulosics | 918.75 | 100.97 | 0.00 |
| | Rubber | 212.02 | 9.92 | 0.00 |
| | Plastics | 1060.10 | 43.83 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.00 | 0.00 |
| Soils | Soil | 144.23 | 0.24 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 4-2. Example of Site-Specific Waste Profile

**TABLE 4-1. SOURCES OF INFORMATION USED IN
SITE-SPECIFIC WASTE PROFILES**

| Information Field | Source of Information | Explanation |
|---------------------------|--|---|
| DOE TRU Site | MWIR Database | <p>The code for the DOE site. Codes are as follows:</p> <ul style="list-style-type: none"> AL - Ames Laboratory AE - Argonne National Laboratory - East AW - Argonne National Laboratory - West ET - Energy Technology Engineering Center IN - Idaho National Engineering Laboratory KA - Knolls Atomic Power Laboratory - Knolls Site LA - Los Alamos National Laboratory LB - Lawrence Berkeley Laboratory LL - Lawrence Livermore National Laboratory MD - Mound Plant MU - University of Missouri NT - Nevada Test Site OR - Oak Ridge National Laboratory PA - Paducah Gaseous Diffusion Plant RF - Rocky Flats Plant RL - Richland (Hanford) Site SA - Sandia National Laboratories/NM SR - Savannah River Site WV - West Valley Demonstration Project |
| WMCG | DOE Waste Treatability Groups Guidance and MWIR Database | Groups waste streams that have similar chemical and physical properties. |
| Waste Stream Volume | 1993 IDB and/or MWIR Database | Provides estimates of retrievably stored, projected, and total volumes of TRU and mixed TRU wastes by waste stream. |
| Waste Material Parameters | NID | Provides total weight estimates of selected waste materials in a particular WMCG for the entire site. |

4.3.2 Assignment of WMCGs to Site-Specific Waste Profiles

Once the waste stream(s) at a particular site have been reviewed and grouped under the appropriate WMCG(s), a site-specific waste profile is developed for each WMCG, using the name of the appropriate WMCG to identify the site-specific waste profile. Although the maximum number of site-specific waste profiles for any given TRU waste generator/storage site is 11 CH and 11 RH, most sites possess fewer.

4.3.3 Estimation of Non-mixed TRU Waste Volumes

The Phase II MWIR (DOE, 1994a) reports only volumes of mixed TRU waste, except for INEL (reported in the Phase I MWIR; DOE, 1994c). To estimate the volume of non-mixed TRU waste (except for INEL), the MWIR volumes by TRU waste site were subtracted from the 1993 IDB total volumes, which report the total TRU and mixed TRU waste volume at each site (DOE, 1994b). The resultant total, which was always positive, was assumed to be non-mixed TRU waste:

$$\text{IDB (TRU and mixed TRU waste)} - \text{MWIR (mixed TRU waste)} = \text{TRU (non-mixed TRU waste)}$$

Because the non-mixed TRU waste volumes are derived from the difference between the IDB total TRU waste volumes and the MWIR total mixed TRU waste volumes per site, there are no WMCs associated with these volumes. Generally, mixed TRU and non-mixed TRU waste streams have similar physical and chemical properties (DOE, 1990).

Based on this assumption, the following example is presented only to illustrate the methodology used at most DOE TRU waste generator/storage sites:

- At a DOE TRU waste generator/storage site, three predominant WMCGs are assumed to occur (i.e., solidified inorganic waste, solidified organic waste, and combustible waste).
- The volume of the three WMCGs is calculated by combining stored and projected volumes of all waste stream profiles under each WMCG.
- For this example, the following partitioning of mixed TRU waste volumes among the WMCGs is assumed: 40 percent solidified inorganic waste, 10 percent solidified organic waste, and 50 percent combustible waste.
- Assuming that the difference between the IDB waste volume and the combined MWIR volume is 200 m³, then the non-mixed portion of the inventory would be distributed among the three WMCGs in the same ratio. That is: 80 m³ (solidified inorganic waste), 20 m³ (solidified organic waste), and 100 m³ (combustible waste). The volumes reported in the site-specific waste profiles include the non-mixed TRU waste.

Because of the disparity in available data on the non-mixed volumes of TRU waste, notations will be made on a waste stream basis, indicating which method was used to arrive at the non-mixed volume of the TRU waste. Appendix F includes tables that define the percentages of the WMCG that is TRU and mixed TRU waste.

CHAPTER 5

5. WIPP WASTE PROFILE METHODOLOGY

5.1 INTRODUCTION

The WIPP waste profiles are the highest tier of information in the WTWBIR. Site-specific waste profiles with the same WMCGs (see Table 1-2) can be combined across the TRU waste generator/storage sites into what is defined as an overall WIPP waste profile.

5.2 WIPP WASTE PROFILE METHODOLOGY

As described in chapters 3 and 4, each waste stream from each TRU waste generator/storage site is defined in a waste stream profile, then grouped by site WMCGs into site-specific waste profiles. These site-specific waste profiles are then rolled-up into WIPP waste profiles by combining identical WMCGs from all the TRU waste generator/storage sites. For example, all site-specific waste profiles for heterogeneous waste (see Table 1-2) can be grouped together to help generate the WIPP waste profile, "heterogeneous waste." The WIPP waste profiles are presented in Figures 5-1 through 5-17 at the end of this chapter.

5.3 WIPP WASTE PROFILE ROLL-UPS

To illustrate the methodology for grouping similar site-specific waste profiles into WIPP waste profiles, the WIPP waste profile for "heterogeneous waste" (based on the five example waste streams shown in Figure 4-1) is provided in Figure 5-4. Table 5-1 lists the sources of information used for the WIPP waste profiles.

TABLE 5-1. SOURCES OF INFORMATION USED IN WIPP WASTE PROFILES

| INFORMATION FIELD | SOURCE OF INFORMATION | EXPLANATION |
|--------------------------------|--|--|
| Waste Matrix Code Group (WMCG) | DOE Waste Treatability Groups Guidance and MWIR Database | Groups waste streams that have similar chemical and physical properties |
| DOE Site Volumes | 1993 IDB and/or MWIR Database | Provides estimates of retrievably stored, projected, and total volumes of TRU and TRU mixed wastes by DOE site |
| Waste Material Parameters | NID Database | Provides weight estimates of selected waste materials in a particular WMCG for the DOE Complex |

Using volumes for all the TRU waste streams (including the mixed and non-mixed TRU waste volumes) in the WIPP TRU Waste Baseline Inventory Database, disposal inventory of TRU waste has been developed using the methodology described in this and the preceding

chapters. This inventory is presented in Table 5-2 (by WMCGs) and depicts both the anticipated and disposal inventory volumes.

The anticipated inventory volumes are the sum of the "stored" and "projected" volumes in Table 5-2. The procedure to obtain the disposal inventory is summarized below:

- The total CH-TRU "stored" and "projected" waste volumes are added together ($8.6 \times 10^4 + 4.1 \times 10^4 = 1.3 \times 10^5 \text{ m}^3$)
- The "unknown" volume of waste in Table 5-2 ($4.2 \times 10^3 \text{ m}^3$) is subtracted from the anticipated inventory because DOE does not intend to produce any "unknown" waste in the future.
- The "unknown" waste will have to be added back into the total scaled inventory because it is assumed that this waste will be characterized and then shipped to WIPP. The target design volume of CH-TRU waste beyond that identified in the MWIR is decreased by $4.2 \times 10^3 \text{ m}^3$ ($1.8 \times 10^5 - 4.2 \times 10^3 = 1.8 \times 10^5 \text{ m}^3$ [there is no significant difference due to rounding]).
- Applying a modified version of the formula given in Section 2.3:

$$\frac{\begin{array}{c} 1.8 \times 10^5 \\ \text{(modified design} \\ \text{inventory)} \end{array} - \begin{array}{c} 1.3 \times 10^5 \\ \text{(modified anticipated} \\ \text{inventory)} \end{array}}{1.3 \times 10^5 \text{ (modified anticipated inventory)}} + 1 \approx 1.4 \text{ (scaling factor)}$$

- Multiply the CH-TRU waste modified anticipated inventory volumes by the scaling factor 1.4 for all the WMCGs, except for the "unknown" waste (which results in the numbers in the fourth column [Scaled Volumes] of Table 5-2).
- Add the CH-TRU waste volumes in the fourth column (Scaled Volumes), including the "unknown" waste, to attain the disposal inventory.

The waste stream volume on a system-wide WMCG basis is increased by 40 percent to account for the difference between the anticipated inventory and the repository design limit. The RH-TRU waste volumes have not been scaled because the volume of anticipated RH-TRU waste inventory already exceeds the design capacity by 21 percent (DOE, 1990).

5.4 RADIONUCLIDE ROLL-UPS

Quantitative radionuclide information is not available on a per-waste-stream basis, as is the nonradionuclide information that is summarized in the waste stream profiles. However, quantitative radionuclide information is available as part of the annual IDB submittal (DOE, 1994b). Table 5-3 contains a summary of the total radionuclide activity (curies) for CH-TRU and RH-TRU waste from information submitted by the DOE TRU waste generator/storage sites (Column 2 of Table 5-2) in support of the data call for the 1993 IDB (DOE, 1994b).

TABLE 5-2. TRANSURANIC WASTE DISPOSAL INVENTORY FOR WIPP

| Waste Matrix Groups | Stored Volumes m ³ | Projected Volumes m ³ | Scaled Volumes m ³ |
|------------------------------|----------------------------------|-------------------------------------|----------------------------------|
| Contact-Handled Waste | | | |
| Combustible | 5.6E+03 | 3.2E+03 | 1.2E+04 |
| Filter | 2.1E+03 | 4.6E+02 | 3.6E+03 |
| Graphite | 4.9E+02 | 0.0E+00 | 6.8E+02 |
| Heterogeneous | 3.4E+04 | 1.6E+04 | 6.9E+04 |
| Inorganic Non-Metal | 1.1E+03 | 1.3E+01 | 1.6E+03 |
| Lead/Cadmium Metal Waste | 2.3E+03 | 2.0E+03 | 6.0E+03 |
| Salt Waste | 7.7E+02 | 0.0E+00 | 1.1E+03 |
| Soils | 4.6E+03 | 3.2E+03 | 1.1E+04 |
| Solidified Inorganics | 1.9E+04 | 1.5E+04 | 4.8E+04 |
| Solidified Organics | 1.3E+03 | 1.8E+02 | 2.1E+03 |
| Uncategorized Metal | 1.1E+04 | 3.5E+02 | 1.6E+04 |
| Unknown ¹ | 4.2E+03 | 2.8E+02 | 4.4E+03 |
| Total | 8.6E+04 | 4.1E+04 | 1.8E+05 |
| Remote-Handled Waste | | | |
| Filter | 2.8E+01 | 2.0E+02 | |
| Heterogeneous | 8.0E+02 | 3.6E+03 | |
| Inorganic Non-Metal | 0.0E+00 | 1.2E+03 | |
| Lead/Cadmium Metal Waste | 0.0E+00 | 8.8E-01 | |
| Solidified Inorganics | 6.2E+02 | 1.4E+03 | |
| Uncategorized Metal | 1.5E-01 | 4.8E+01 | |
| Unknown | 5.6E+02 | 4.2E+02 | |
| Total | 2.0E+03 | 7.0E+03 | |
| Grand Total | 8.8E+04 | 4.8E+04 | |

¹ The projected "unknown" waste streams are calculated non-mixed TRU waste streams as defined in section 4.3.3. There was not enough information provided in the MWIR from the TRU waste generator/storage sites to assign these streams to a WMCG.

The curie totals for CH-TRU waste have been scaled (1.4) by the same percentage as the volume numbers in Section 5.3 for CH-TRU waste. The scaling will allow SP and PA modeling of the performance of the repository, with the inventory increased to the permitted volume limits. The curie totals presented in Column 4 (for RH-TRU) and Column 3 (for CH-TRU) in Table 5-3 are intended to replace the curie totals used by SNL/NM in the latest published data on waste parameters used in PA (Table 3.3-1 in Sandia WIPP Project, 1992). A more comprehensive listing of radionuclide inventories can be found in Appendix I.

TABLE 5-3. IDB TOTALS FOR SELECTED RADIONUCLIDES, DECAYED, AND ACCUMULATED TO DECEMBER 1992

| RADIONUCLIDE | CH (REPORTED) CURIES | CH (SCALED) CURIES | RH CURIES |
|--------------|----------------------------|--------------------------|--------------|
| Am 241 | 4.13E+04 | 5.78E+04* | 8.98E+04 |
| Cf 252 | 1.09E+02 | 1.53E+02 | 1.10E+01 |
| Cs 137 | 1.98E+03 | 2.77E+03 | 2.94E+04 |
| Np 237 | 1.68E+01 | 2.35E+01 | 7.66E-01 |
| Pm 147 | 5.37E+02 | 7.52E+02 | 1.11E+03 |
| Pu 238 | 5.80E+05 | 8.12E+05 | 6.17E+04 |
| Pu 239 | 1.23E+05 | 1.72E+05 | 4.08E+04 |
| Pu 240 | 1.63E+04 | 2.28E+04 | 9.98E+03 |
| Pu 241 | 3.24E+05 | 4.54E+05 | 1.78E+05 |
| Pu 242 | 4.92E+02 | 6.89E+02 | 9.48E-01 |
| Sr 90 | 1.44E+03 | 2.02E+03 | 5.75E+04 |
| Th 232 | 1.01E-01 | 1.41E-01 | 3.33E-01 |
| U 233 | 2.14E+02 | 3.00E+02 | 1.04E+03 |
| U 235 | 9.94E-01 | 1.39E+00 | 3.67E+02 |
| U 238 | 6.08E+00 | 8.51E+00 | 2.30E+00 |

N/A = RH-TRU curie content was not scaled to fill the WIPP repository. (See Section 5.4 for details.)

* = Scaling factor is 1.4 from the volumes in Table 5-2.

ASSUMPTIONS:

1. Activities reported in 1993 are complete and accurate.
2. Equivalent Pu 239 activities.
3. Calculations to "decay" values reported by DOE sites were performed correctly and assumptions stated in 1993 IDB are valid.
4. Site reporting was done in accordance with the instructions in the 1993 IDB data call.
5. Reported values are scaled to design repository volume for CH-TRU waste only.

METHODOLOGY:

The figures presented were arrived at by summing the calculated decayed values in the 1993 IDB from data reported by DOE sites managing TRU waste in response to a formal, nationwide data call.

WIPP CONTACT HANDLED WASTE PROFILES

30-Jun-94

WASTE MATRIX CODE GROUP Combustible Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|-------------------|----------------------|----------------------|------------------------------|
| IN | 557.0 | 0.0 | 557.0 |
| MD | 57.7 | 28.1 | 85.8 |
| RF | 287.0 | 208.6 | 495.5 |
| SR | 4747.1 | 2986.6 | 7733.7 |
| CH TOTALS: | 5648.8 | 3223.3 | 8872.0 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 4.23 | 1.10 | 0.00 |
| Organics | Cellulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-1. WIPP CH-TRU Waste Profile for Combustible Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Filter Waste

| | <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|-------------|----------------------|----------------------|------------------------------|
| | IN | 1424.7 | 0.0 | 1424.7 |
| | RF | 693.1 | 458.5 | 1151.5 |
| <u>CH TOTALS:</u> | | 2117.8 | 458.5 | 2576.2 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 429.82 | 429.82 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | 8.77 | 8.77 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-2. WIPP CH-TRU Waste Profile for Filter Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Graphite Waste

| | <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|-------------|----------------------|----------------------|------------------------------|
| | IN | 487.0 | 0.0 | 487.0 |
| | RF | 0.4 | 0.0 | 0.4 |
| <u>CH TOTALS:</u> | | 487.4 | 0.0 | 487.4 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 1673.08 | 115.38 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-3. WIPP CH-TRU Waste Profile for Graphite Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Heterogeneous Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|-------------------|----------------------|----------------------|------------------------------|
| IN | 14508.6 | 0.0 | 14508.6 |
| KA | 2.4 | 0.0 | 2.4 |
| LA | 2041.5 | 4677.0 | 6718.5 |
| LL | 110.5 | 809.5 | 920.0 |
| MU | 0.1 | 0.5 | 0.6 |
| NT | 612.0 | 0.0 | 612.0 |
| OR | 928.3 | 609.3 | 1537.6 |
| RF | 1493.6 | 1187.0 | 2680.5 |
| RL | 8991.7 | 3116.8 | 12108.5 |
| SR | 5022.4 | 5813.0 | 10835.4 |
| CH TOTALS: | 33711.0 | 16213.0 | 49924.0 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 4.23 | 1.10 | 0.00 |
| Organics | Cellulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-4. WIPP CH-TRU Waste Profile for Heterogeneous Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Inorganic Non-metal Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|----------------------|----------------------|------------------------------|
| IN | 927.3 | 0.0 | 927.3 |
| RF | 212.9 | 12.9 | 225.8 |
| <u>CH TOTALS:</u> | 1140.3 | 12.9 | 1153.1 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 290.75 | 290.75 | 0.00 |
| Organics | Cellulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-5. WIPP CH-TRU Waste Profile for Inorganic Nonmetal Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Lead/Cadmium Metal Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|----------------------|----------------------|------------------------------|
| AE | 0.4 | 0.7 | 1.1 |
| ET | 2.5 | 0.2 | 2.7 |
| LA | 2209.2 | 1823.8 | 4033.0 |
| LL | 1.0 | 28.0 | 29.0 |
| RF | 77.3 | 47.9 | 125.1 |
| RL | 1.8 | 55.8 | 57.6 |
| WV | 30.9 | 0.0 | 30.9 |
| <u>CH TOTALS:</u> | 2323.1 | 1956.3 | 4279.4 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-6. WIPP CH-TRU Waste Profile for Lead/Cadmium Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Salt Waste

| | <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|-------------|----------------------|----------------------|------------------------------|
| | IN | 17.6 | 0.0 | 17.6 |
| | RF | 754.3 | 0.0 | 754.3 |
| <u>CH TOTALS:</u> | | 771.9 | 0.0 | 771.9 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | 14.42 | 12.02 | 0.48 |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Inorganic Materials | 567.30 | 216.30 | 48.10 |
| | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-7. WIPP CH-TRU Waste Profile for Salt Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Soil

| | <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|-------------|----------------------|----------------------|------------------------------|
| | IN | 38.0 | 0.0 | 38.0 |
| | RL | 4598.8 | 3181.4 | 7780.2 |
| <u>CH TOTALS:</u> | | 4636.8 | 3181.4 | 7818.2 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 3072.12 | 584.13 | 0.00 |
| Organics | Cellulosics | 12.02 | 12.02 | 0.00 |
| | Rubber | | | |
| | Plastics | 12.02 | 12.02 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | 144.23 | 64.90 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-8. WIPP CH-TRU Waste Profile for Soil

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Solidified Inorganic Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|-------------------|----------------------|----------------------|------------------------------|
| AE | 21.1 | 144.4 | 165.5 |
| AL | 0.0 | 0.3 | 0.3 |
| IN | 6992.2 | 0.0 | 6992.2 |
| LA | 6274.2 | 10108.9 | 16383.1 |
| LL | 112.0 | 851.5 | 963.5 |
| MD | 86.8 | 27.9 | 114.7 |
| OR | 139.2 | 37.3 | 176.5 |
| PA | 18.8 | 0.0 | 18.8 |
| RF | 3232.6 | 1177.9 | 4410.5 |
| RL | 1989.0 | 3014.4 | 5003.4 |
| SR | 0.0 | 0.0 | 0.0 |
| WV | 19.3 | 0.1 | 19.4 |
| CH TOTALS: | 18885.3 | 15362.6 | 34247.9 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-9. WIPP CH-TRU Waste Profile for Solidified Inorganic Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Solidified Organic Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|-------------------|----------------------|----------------------|------------------------------|
| AE | 0.0 | 0.1 | 0.2 |
| IN | 1017.8 | 0.0 | 1017.8 |
| LL | 0.8 | 21.0 | 21.8 |
| RF | 124.1 | 9.5 | 133.6 |
| RL | 0.4 | 22.1 | 22.5 |
| SR | 201.5 | 124.4 | 325.9 |
| CH TOTALS: | 1344.6 | 177.1 | 1521.7 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-10. WIPP CH-TRU Waste Profile for Solidified Organic Waste

WIPP CONTACT HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Unspecified Metal Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|----------------------|----------------------|------------------------------|
| AE | 4.4 | 35.7 | 40.1 |
| IN | 10677.1 | 0.0 | 10677.1 |
| LA | 15.1 | 0.0 | 15.1 |
| RF | 367.7 | 312.2 | 679.9 |
| <u>CH TOTALS:</u> | 11064.3 | 347.9 | 11412.2 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | 317.31 | 83.65 | 0.00 |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 1586.54 | 195.19 | 0.00 |
| | Other Inorganic Materials | 19.23 | 19.23 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Figure 5-11. WIPP CH-TRU Waste Profile for Unspecified Metal Waste

WIPP REMOTE HANDLED WASTE PROFILES

30-Jun-94

WASTE MATRIX CODE GROUP Filter Waste

| | <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|-------------|----------------------|----------------------|------------------------------|
| | AW | 7.1 | 0.4 | 7.5 |
| | IN | 20.4 | 204.0 | 224.4 |
| <u>RH TOTALS:</u> | | 27.5 | 204.4 | 231.9 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 429.82 | 429.82 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | 8.77 | 8.77 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Figure 5-12. WIPP RH-TRU Waste Profile for Filter Waste

WIPP REMOTE HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Heterogeneous Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|----------------------|----------------------|------------------------------|
| AW | 0.0 | 0.2 | 0.2 |
| IN | 12.8 | 0.0 | 12.8 |
| KA | 11.2 | 25.2 | 36.4 |
| LA | 78.4 | 930.0 | 1008.4 |
| OR | 497.9 | 238.3 | 736.2 |
| RL | 201.0 | 2454.8 | 2655.8 |
| <u>RH TOTALS:</u> | 801.3 | 3648.5 | 4449.8 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Inorganic Materials | 29.28 | 29.28 | 0.00 |
| Organics | Cellulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Figure 5-13. WIPP RH-TRU Waste Profile for Heterogeneous Waste

WIPP REMOTE HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Inorganic Non-metal Waste

| | <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|-------------|----------------------|----------------------|------------------------------|
| | RL | 0.0 | 1227.4 | 1227.4 |
| <u>RH TOTALS:</u> | | 0.0 | 1227.4 | 1227.4 |

| <u>Material Parameters (kg/m3)</u> | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|------------------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 572.12 | 572.12 | 0.00 |
| Organics | Cellulosics | 24.04 | 24.04 | 0.00 |
| | Rubber | | | |
| | Plastics | 24.04 | 24.04 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Figure 5-14. WIPP RH-TRU Waste Profile for Inorganic Nonmetal Waste

WIPP REMOTE HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Lead/Cadmium Metal Waste

| | <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|-------------|----------------------|----------------------|------------------------------|
| | AW | 0.0 | 0.9 | 0.9 |
| <u>RH TOTALS:</u> | | 0.0 | 0.9 | 0.9 |

| <u>Material Parameters (kg/m3)</u> | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|------------------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Inorganic Materials | 29.28 | 29.28 | 0.00 |
| Organics | Cellulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Figure 5-15. WIPP RH-TRU Waste Profile for Lead/Cadmium Metal Waste

WIPP REMOTE HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Solidified Inorganic Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|----------------------|----------------------|------------------------------|
| AW | 0.0 | 0.1 | 0.1 |
| IN | 11.6 | 0.0 | 11.6 |
| OR | 605.0 | 180.0 | 785.0 |
| RL | 0.0 | 1227.4 | 1227.4 |
| <u>RH TOTALS:</u> | 616.6 | 1407.5 | 2024.1 |

Material Parameters (kg/m3)

| | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 290.75 | 290.75 | 0.00 |
| Organics | Cellulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Figure 5-16. WIPP RH-TRU Waste Profile for Solidified Inorganic Waste

WIPP REMOTE HANDLED WASTE PROFILES (contd)

WASTE MATRIX CODE GROUP Unspecified Metal Waste

| <u>SITE</u> | <u>Stored Volume</u> | <u>Projected Sum</u> | <u>Total (Volumes in m3)</u> |
|--------------------------|----------------------|----------------------|------------------------------|
| AE | 0.0 | 47.6 | 47.6 |
| AW | 0.2 | 0.6 | 0.8 |
| <u>RH TOTALS:</u> | 0.2 | 48.2 | 48.4 |

| <u>Material Parameters (kg/m3)</u> | | <u>Max</u> | <u>Average</u> | <u>Min</u> |
|------------------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Inorganic Materials | 29.28 | 29.28 | 0.00 |
| Organics | Cellulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Figure 5-17. WIPP RH-TRU Waste Profile for Unspecified Metal Waste

CHAPTER 6

6. WASTE MATERIAL PARAMETERS

6.1 INTRODUCTION

Some waste materials that occur in TRU waste may degrade over the 10,000-year period for performance modeling (EPA, 1993a). Some of these waste materials may produce gas by either chemical, microbial, or radiolytic processes (WIPP PA, 1993). These types of processes need to be evaluated as part of the WIPP SP and PA modeling effort to analyze their impact on repository behavior.

6.2 PARAMETER DESCRIPTION

This chapter identifies and defines the waste material parameters to be evaluated in performance assessment calculations. The same methodology used for identifying waste stream profiles and combining them into site-specific and WIPP waste profiles is used to develop a disposal inventory for WIPP by waste material parameters (see Figures 2-1 and 4-1). Waste material parameter information is provided for each waste stream profile (Figure 1-2). This waste material parameter information is used to estimate the anticipated WIPP inventory, which is then scaled to obtain the repository design limit (disposal inventory). This inventory is presented as a weighted average with a maximum and minimum expected weight/volume for each waste material parameter.

A discussion of the methodology for assignment of waste parameter information from the NID to WTWBIR waste streams is presented in Section 2.3.4 and Appendix J. The 10 waste material parameters and packaging materials that are direct inputs into the SP and PA models are:

Inorganics

- Iron-based metals/alloys – This designation is meant to include iron and steel alloys in the waste and does not include the waste container materials.
- Aluminum-based metals/alloys – Aluminum or aluminum-based alloys in the waste materials.
- Other Metals – All other metals found in the waste materials (e.g., copper, lead, zirconium, tantalum, etc.). The lead portion of lead rubber gloves/aprons are also included in this category.
- Other Inorganic Materials – Include inorganic nonmetal waste materials such as concrete, glass, firebrick, ceramics, sand, and inorganic sorbents.

Organics

- Cellulosics – Includes those materials, generally derived from high polymer plant carbohydrates. Examples are paper, cardboard, kimwipes, wood, cellophane, cloth, etc.
- Rubber – Includes natural or manmade elastic latex materials. Examples are Hypalon, Neoprene, surgeons' gloves, leaded-rubber gloves (rubber part only), etc.
- Plastics – Includes generally manmade materials, often derived from petroleum feedstock. Examples are polyethylene, polyvinylchloride, Lucite, Teflon, etc.

Solidified Materials

- Inorganic Matrix – This includes any homogenous materials consisting of sludge or aqueous-based liquids that are solidified with cement, Envirostone, or other solidification agents. Examples are wastewater treatment sludge, cemented aqueous liquids, and inorganic particulates, etc.
- Organic Matrix – This includes cemented organic resins, solidified organic liquids, and sludges.

Soils

- Generally consists of naturally occurring soils that have been contaminated with inorganic waste materials.

Packaging Materials

- Steel – For this revision of the WTWBIR all CH-TRU waste is **assumed** to be packaged in 55-gallon drums and RH-TRU waste is **assumed** to be packaged in the RH-TRU shipping container for disposal in WIPP. As additional data on other packaging configurations is specified by the TRU waste generator/storage sites, this information will be added to the WTWBIR.
- Plastics – For this revision of the WTWBIR, all CH-TRU waste is assumed to be packaged in ~80 mil high-density polyethylene liner with several layers of plastic bags inside.
- Lead – The RH-TRU canister contains lead as well as steel.

6.3 METHODOLOGY

If an MWIR waste stream is a direct match with a waste stream in the NID (i.e., has the same IDC), then that waste material parameter information is used in the WTWBIR. In cases where a direct match does not occur, the waste stream description and WMCs are used in conjunction with expert judgement and general process knowledge to assign waste parameter information from a particular NID waste stream to the particular MWIR waste stream (see Appendix J for additional information). In some cases, two or more NID waste streams could be combined on a weighted basis to provide the correct mix of waste materials for the MWIR waste stream.

The NID information provides weights for materials in an average drum and sometimes provides minimum and maximum weights for the materials. These data were used to calculate densities of particular materials for each IDC. These weights for each material parameter represent the waste profile for each IDC and, hence, for each MWIR waste stream.

Waste material parameters from the NID were rolled up into more general categories. The best way to describe this is with a **hypothetical example** as shown in Table 6-1.

TABLE 6-1. NID INFORMATION

| Waste Material Parameter | Minimum (wt%) | Average (wt%) | Maximum (wt%) |
|---------------------------------|----------------------|----------------------|----------------------|
| Paper | 10 | 30 | 80 |
| Kimwipes | 5 | 15 | 40 |
| Cloth | 0 | 5 | 10 |
| Cellulosics (summed) | 15 | 50 | |
| Drum Weights (kg) (waste only) | 50 | 95 | 150 |

The average weight percent does not add to 100 percent because other parameters such as metals make up the rest of an average drum. As shown in the fourth line, the data would roll up into the WTWBIR database as cellulosic materials. The result in the WTWBIR would be as follows:

| Weight per drum (Kg) | | | |
|----------------------|-----|------|-----|
| Parameter | Min | Avg | Max |
| Cellulose | 7.5 | 47.5 | 150 |

The minimum is the sum of the minimum weight percents in the NID multiplied by the minimum weight of waste (i.e., 15 percent x 50 kg = 7.5 kg) in the drum. The average is the sum of the average weight percents multiplied by the average weight of waste (i.e., 50 percent x 95 kg = 47.5 kg) in the drum. The maximum is the sum of the maximum weight percents multiplied by the maximum weight of waste (i.e., 100 percent x 150 kg = 150 kg) in the drum. In this case the maximum weight percents add to more than 100 percent which is physically impossible; therefore, 100 percent is used for the maximum weight percent. When tables and reports are computed for the WTWBIR, the weights per drum are converted to weight per cubic meter based on 0.208 cubic meters per 55-gallon drum.

The rollups of these material parameters by WMCGs or by site use the volumes from the MWIR data in the WTWBIR database. The roll ups by WMCGs or by site require combining data for several MWIR waste streams. The averages for the material parameters are calculated from the NID-derived average densities modified by the MWIR volume fractions and summed as follows:

$$\text{Average Density of rollup group} = \text{Average Density,} \quad \times \quad \frac{(\text{Volume MWIR Stream,})}{(\text{Total Volume of Group})} \quad + \dots$$

The minimum density is chosen as the smallest minimum density of a particular waste material parameter in the MWIR waste streams in a particular site-specific rollup. The maximum density is chosen in a similar manner, except that the largest maximum density was chosen.

In many cases, the NID does not have data for minimum and maximum percentages, even though average percentages are provided. In these cases, for rollup purposes only, the minimum is assumed to be zero and the maximum is assumed to be equal to the average. This ensures that the calculated and rolled up maximum densities are greater than the average densities. However, the maximum density may not be a true maximum but the maximum average density (see Appendix L for further WTWBIR Database information).

6.4 QUALITY ASSURANCE

WTWBIR Team – The data entry, manipulations, and reporting was conducted in conformance to a Quality Assurance Plan (CTS-WTAC-0001). The basic concept of the plan was to:

- Maintain record copies of the database at different points in the development.
- Maintain an auditable record of additions and changes to the database.
- Document and verify the correct use of the database to produce the reports and tables used in the WTWBIR.

This was accomplished by documenting and verifying the changes, additions, corrections, and report and table generation through the use of formal change forms signed and dated by the implementor and checker. The implementor is the individual who initially makes the changes or develops the report or table and the checker is another individual who checks and verifies that the initial work was correct. If the initial implementation was not correct, the checker confers with the implementor, changes are agreed upon, and the checker and implementor both check that the changes are properly implemented.

The change form is also used by anyone on the WTWBIR team to request a change or addition to the database. In this case the form also includes the requestor's name and the date requested. The requestor can also be the checker or implementor – but not both.

The database manager is responsible for maintaining the record copies of the database, tracking and ensuring proper use of change forms, and ensuring that the technical lead for the WTWBIR team is cognizant of changes being made to the data.

6.5 WIPP WASTE MATERIAL PARAMETER ROLLUPS

The waste material parameters that are inputs into the SP process and PA models are presented in Table 6-2 for CH-TRU waste and Table 6-3 for RH-TRU waste. These tables represent the WIP disposal inventory of waste material parameters. These waste material parameters are the final rollups of the WIPP waste profiles in Tables 5-1 through 5-17.

TABLE 6-2. WIPP CH-TRU WASTE MATERIAL PARAMETER DISPOSAL INVENTORY

| Radiological Desig: CH | | (Kg/m ³) | | |
|------------------------------|------------------|----------------------|---------|---------|
| | Materials | Maximum | Average | Minimum |
| Inorganics: | Iron Based | 1.7E+03 | 4.0E+01 | 0.0E+00 |
| | Aluminum Based | 7.4E+01 | 3.0E+00 | 0.0E+00 |
| | Other Metals | 1.6E+03 | 1.6E+01 | 0.0E+00 |
| | Other Inorganics | 3.1E+03 | 5.2E+01 | 0.0E+00 |
| Organics: | Cellulose | 2.0E+03 | 2.0E+02 | 0.0E+00 |
| | Rubber | 4.6E+02 | 2.0E+01 | 0.0E+00 |
| | Plastics | 2.9E+03 | 6.5E+01 | 0.0E+00 |
| Solidified Materials: | Inorganic | 2.0E+03 | 1.9E+01 | 0.0E+00 |
| | Organic | 2.0E+03 | 1.2E+01 | 0.0E+00 |
| Soils | | 6.7E+02 | 5.3E+00 | 0.0E+00 |
| Total Volume: | 1.3E+05 | | | |
| Container Materials: | | | | |
| | Steel | | 1.4E+02 | |
| | Plastic Liner | | 3.9E+01 | |

TABLE 6-3. WIPP RH-TRU WASTE MATERIAL PARAMETER DISPOSAL INVENTORY

| Radiological Desig: RH | | (Kg/m ³) | | |
|----------------------------------|------------------|----------------------|---------|---------|
| | Materials | Maximum | Average | Minimum |
| Inorganics: | Iron Based | 1.7E+03 | 7.1E+01 | 0.0E+00 |
| | Aluminum Based | 2.8E+01 | 3.8E+00 | 0.0E+00 |
| | Other Metals | 9.1E+02 | 5.0E+00 | 0.0E+00 |
| | Other Inorganics | 5.7E+02 | 1.3E+02 | 0.0E+00 |
| Organics: | Cellulose | 4.5E+02 | 3.4E+01 | 0.0E+00 |
| | Rubber | 1.8E+01 | 2.9E+00 | 0.0E+00 |
| | Plastics | 1.5E+02 | 3.2E+01 | 0.0E+00 |
| Solidified Materials: | Inorganic | 2.0E+03 | 7.0E+01 | 1.6E+02 |
| | Organic | 3.0E+00 | 5.3E-03 | 0.0E+00 |
| Soils | | | | |
| Total Volume: | | 2.6E+03 | | |
| Canister, Plug Materials: | | | | |
| | Steel | | 2.6E+03 | |
| | Lead | | 4.6E+02 | |

CHAPTER 7

7. REFERENCES

DOE – See U.S. Department of Energy.

EPA – See U.S. Environmental Protection Agency.

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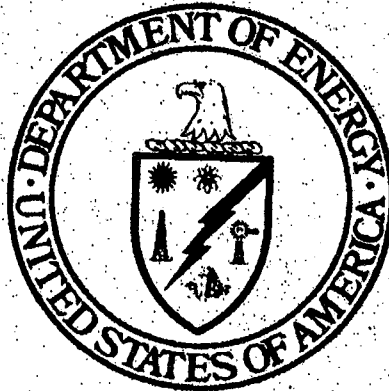
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Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report



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APPENDIX A

APPENDIX A GLOSSARY

40 CFR Part 191, Protection of Environment. EPA: Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and TRU Radioactive Wastes – The EPA's environmental standards for the storage (Subpart A) and disposal (Subpart B) of spent nuclear fuel, and high-level and TRU radioactive wastes. This is the primary post-closure standard that applies to WIPP. It limits annual radiation doses to the public from waste management storage and disposal facilities.

40 CFR Part 268, Protection of Environment. EPA: Land Disposal Restrictions – Restricts the land disposal of all hazardous wastes and specifies strict treatment standards that must be met before these wastes can be land-disposed.

Americium (Am) – A TRU radionuclide having an atomic number of 95, containing 95 electrons and 95 protons. Am-241 (half-life 432.7 y) results from the decay of Pu-241 (half-life 14.4 y). Waste initially rich in Pu-241 will therefore "grow" in Am-241 for several decades as the Pu decays. Am-241 exists in finite amounts in TRU waste at INEL, LANL, LLNL, NTS, ORNL, RFP, and SRS.

Anticipated Inventory – The sum of the stored and projected inventories, as defined in this document.

Buried Waste – TRU waste buried in shallow trenches prior to the 1970 Atomic Energy Commission policy that required TRU waste to be retrievably stored.

Californium (Cf) – A TRU element having an atomic number 98 (the number of protons in the nucleus). An alpha emitter (half-life 2.64 y), Cf-252 also spontaneously fissions, thus making it desirable as a neutron source. Cf-252 is created by neutron bombardment of Cm-244 targets. OR is the only production agency for Cf. As a result, the OR inventory is the only TRU waste inventory showing finite quantities of this element.

Code of Federal Regulations (CFR) – (1) A codification of the general and permanent rules published in the **Federal Register** by the department and agencies of the federal government. The CFR is divided into 50 titles that represent broad areas subject to federal regulation. It is issued quarterly and revised annually. (2) All federal regulations in force are published annually in codified form in the CFR.

Contact-Handled (CH) TRU Waste – Packaged TRU wastes with an external surface dose rate of 200 mrem or less per hour.

Curie – A quantitative measure of radioactivity equal to 3.7×10^{10} disintegrations per second.

Curium (Cm) – A TRU element having an atomic number of 96 (the number of protons in the nucleus). An alpha emitter (half-life 18.1 y), Cm-244 is used for neutron bombardment of targets for the production of Cf-252 at ORNL. In spite of its half-life being less than 20 years, OR considers and handles Cm-244 as a TRU nuclide. Some TRU waste at both OR and SR contains Cm-244.

Decontamination and Decommissioning (D&D) – The process through which DOE facilities which are no longer operational are cleared of contamination and removed from service. In

particular, a reference to D&D waste is a reference to the waste materials that are generated during D&D activities.

Defense Waste – (1) Radioactive waste from any activity performed in whole or in part in support of DOE atomic energy defense activities; excludes waste under purview of the Nuclear Regulatory Commission or generated by the commercial nuclear power industry. (2) Nuclear waste derived mostly from the manufacture of nuclear weapons, weapons-related research programs, the operation of naval reactors, and the decontamination of production facilities.

Department of Energy Site – A DOE-owned or -controlled tract used for DOE operations. Either a tract owned by DOE or a tract leased or otherwise made available to the federal government under terms that afford to DOE rights of access and control substantially equal to those that DOE would possess if it were the holder of the fee (or pertinent interest therein) as agent of and on behalf of the government. One or more DOE operations/program activities are carried out within the boundaries of the described tract.

Design Capacity – The planned waste capacity of the Waste Isolation Pilot Plant.

Disposal – Emplacement of waste in a manner that assures isolation from the biosphere for the foreseeable future with no intent of retrieval and that requires deliberate action to regain access to the waste. For example, disposal of wastes in a mined geologic repository occurs when all of the shafts to the repository area are backfilled and sealed.

Disposal Inventory – The total inventory defined for WIPP emplacement (after scaling) to be used for SP and PA calculations.

Environmental Restoration (ER) – Those activities associated with the remediation of sites contaminated with hazardous and/or radioactive materials. In particular, a reference to remediation activities conducted under the auspices of the DOE Office of Environmental Restoration and Waste Management, Office of Environmental Restoration, EM-40.

Federal Facility Compliance Act (FFCA) – Public law 102-386, 1992.

Gas Production – Three gas generation processes are expected to be a factor in the degradation of TRU wastes in the WIPP repository. The generation of gaseous species is expected to occur through chemical (i.e., corrosion), microbial, and radiolytic processes.

Generator/Storage Sites – See Waste Generator/Storage Sites.

Hazardous Waste – Those wastes that are designated hazardous by EPA (or state) regulations through the RCRA.

Integrated Data Base (IDB) – The latest version of the IDB, the *Integrated Data Base for 1993: U.S. Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics* (DOE, 1994b)

Mixed TRU Waste – TRU waste that contains both radioactive and hazardous components as defined by the Atomic Energy Act and the RCRA as codified in 40 CFR Parts 263, 265, 268, and 270 (EPA, 1980a; 1980b; 1986; and 1983).

Mixed Waste Inventory Report (MWIR) – The latest release of information from the MWIR database that supports requirements under the FFCA of 1992 (Public Law 102-386). The latest

version of the MWIR documentation/files is *Distribute of Phase II Mixed Waste Inventory Report Data*, dated May 17, 1994 (DOE, 1994a). This information replaces the Phase I MWIR release (DOE, 1994c).

Newly Generated Wastes – See Projected Inventory.

No-Migration Variance Petition (NMVP) – Section 3004 of RCRA allows EPA to grant a variance from the land disposal restrictions when a determination can be made that, to a reasonable degree of certainty, there will be no migration of hazardous constituents from the disposal unit for as long as the waste remains hazardous. Specific requirements for making this demonstration are found in 40 CFR 268.6, and EPA has published a draft guidance document to assist petitioners in preparing a variance request.

Non-Mixed TRU Waste – Transuranic waste that does not contain hazardous constituents or exhibit hazardous characteristics, as identified in 40 CFR 261, Subparts C and D.

Nonradionuclide Inventory Database (NID) – A database of the nonradionuclide constituents in the TRU inventory, originally developed by IT during 1988/1989 in support of SNL/NM PA efforts. A summary of the database was transmitted to SNL/NM in a letter report dated May 1989 (WIPP PA, 1991). A copy of the NID waste stream information used in the WTWBIR is provided in Appendix D.

Performance Assessment (PA) – (1) A systematic analysis of the potential risks posed by waste management systems to the public and environment and a comparison of those risks to established performance objectives. (2) An analysis that (a) identifies the processes and events that might affect the disposal system, (b) examines the effects of these processes and events on the performance of the disposal system, and (c) estimates the cumulative releases of radionuclides, considering the associated uncertainties, caused by all significant processes and events. These estimates shall be incorporated into an overall probability distribution of cumulative release to the extent practicable. (3) A term used to denote all activities (qualitative and quantitative) carried out to (a) determine the long-term ability of a site/facility to effectively isolate the waste and ensure the long-term health and safety of the public and (b) provide the basis for demonstrating regulatory compliance.

Plutonium (Pu) – A radionuclide having an atomic number of 94, the first TRU element. Pu isotopes exist in some TRU waste at all the major DOE storage facilities. The significant isotopes that may exist in measurable quantities at these facilities are Pu-238 through Pu-242. Each isotope is an alpha emitter; the respective half-lives in years are: 238=87.7, 239=24,000, 240=6,563, 241=14.4, 242=376,000. Because of its high activity, Pu-238 can contribute significantly to the thermal loading on some TRU waste. Pu-241 decays, primarily by beta emission, to Am-241.

Process Knowledge – The determination of waste container contents through the study of existing records on the production history of the waste.

Projected Inventory – That part of the inventory that has not been generated but is estimated to be generated at some time in the future by the TRU waste generator/storage sites. The estimated timeframe may vary, but is usually between 20 and 30 years. "Newly generated waste" also is sometimes used as a synonym for the projected inventory.

Radioactive – Substances that emit radiation either naturally or as a result of scientific manipulation.

Radionuclide – (1) A species of atom having an unstable nucleus, that is subject to spontaneous decay or disintegration and usually accompanied by the emission of ionizing radiation. (2) Any nuclide that emits radiation. A nuclide is a species of atom characterized by the constitution of its nucleus and hence by the number of protons, the number of neutron, and the energy content.

Remote-Handled (RH) TRU Waste – Packaged TRU wastes with an external surface dose rate exceeding 200 mrem per hour.

Repository – Designated location for disposal of transuranic wastes; the Waste Isolation Pilot Plant.

Resource Conservation and Recovery Act (RCRA) – (1) Establishes a system for controlling hazardous waste from generation to disposal. (2) A Federal law passed in 1976, and amended under the HSWA of 1984, that established a structure to track and regulate hazardous wastes from the time of generation to disposal. The law requires safe and secure procedures to be used in treating, handling, transporting, storing, and disposing of hazardous substances. RCRA is designed to prevent new uncontrolled hazardous waste sites. The law also regulates the disposal of solid waste that may not be considered hazardous. (3) Specifically, Subtitle D of RCRA governs the management of solid waste. (Note: 40 CFR Parts 260-281 are the regulations for complying with RCRA with respect to hazardous waste and hazardous waste treatment, storage, and disposal facilities.)

Retrievable Storage – Designated storage location for transuranic wastes that is designed, operated, and maintained in such a manner that the wastes remain accessible for subsequent retrievable operations.

Scaling – The process for adjusting the anticipated inventory to the design limit (disposal inventory) of the WIPP repository.

Site-Specific Waste Profile – Represents a WMCG at a particular DOE TRU waste generator/storage site. That is, one or more waste stream profiles, at a particular DOE TRU waste site, that have been placed in the same WMCG are summarized in the site-specific waste profile.

Stakeholders – Those persons and/or groups of people and organizations who are affected or perceive they are affected by the DOE waste management program. Stakeholders include DOE management, employees, and contractors (internal); and executive, legislative, and regulatory groups, public representatives, the general public, intervenor groups, special interest groups, contractors, suppliers, and universities (external).

Stored Inventory – That part of the TRU inventory currently in retrievable storage as of the time of the last data call for inventory information. Retrievably stored waste includes waste stored in buildings or in berms with earthen cover since 1970 and **does not include any waste that was buried prior to 1970.**

System Prioritization (SP) – The SP is a process formulated to identify a set of activities (required experiments, modeling, engineering design, and waste acceptance criteria) that will lead to regulatory compliance. The process is formulated such that it also: (1) addresses stakeholder and regulator concerns early and throughout the regulatory process and (2) leads to a fully defensible performance assessment to be used in demonstrating regulatory compliance. Ultimate products and associated customers are:

- (1) A decision matrix containing the most likely sets of activities that will lead to compliance as a function of time and budget to be delivered to the WIPP program manager,
- (2) A performance assessment built on assumptions and data that are defensible in the eyes of the stakeholders and the regulators to be delivered to the regulatory compliance branch of Carlsbad Area Office/WIPP through the Westinghouse Waste Isolation Division and ultimately to the EPA, and
- (3) A set of regulatory issues and their current status that result from the SP process and are to be included in compliance packages by the Westinghouse Waste Isolation Division.

Thorium (Th) – A radionuclide having an atomic number of 90. Although not TRU, Th-232 is an alpha emitter (half-life 14 billion years) and exists in finite amounts in some TRU waste at HA, IN, and OR. [Note: Thorium is naturally occurring and contributes to background radiation at some sites (e.g., IN)]

Transuranic – Pertaining to elements that have atomic numbers greater than 92, including neptunium, plutonium, americium, and curium; all are radioactive, are products of artificial nuclear changes, and are members of the actinide group.

Transuranic (TRU) Waste – (1) Waste containing alpha-emitting radionuclides with an atomic number greater than 92 and half-lives greater than 20 years, at concentrations of TRU isotopes greater than 100 nanocuries per gram of waste. **This core definition appears in modified form in various relevant documents as follows:** (a) For purposes of management, DOE Order 5820.2A: (i) considers TRU waste, as defined above, "without regard to source or form" (*The proposed revision to the Order [DOE Order 5820.2A Major Issues for Revision, May 6, 1992]* contemplates removing this clause); (ii) allows head of field elements to determine that wastes containing other alpha-emitting radionuclides must be managed as TRU waste; and (iii) adds "at time of assay," implying both that the classification of a waste as TRU waste is to be made based on an assay, and that such classification can be superseded only by another assay. (b) For purposes of setting standards for management and disposal, 40 CFR 191.02(i) adds "except for: (i) high-level wastes; (ii) wastes that the DOE has determined, with the concurrence of the EPA Administrator, do not need the degree of isolation required by this part; or (iii) wastes that the Nuclear Regulatory Commission has approved for disposal on a case-by-case basis in accordance with 10 CFR 61. (2) Waste materials contaminated with U-233 (and its daughter products), with certain isotopes of plutonium, or with other nuclides with atomic numbers greater than 92. In order to be classified as TRU waste, the long-lived alpha activity from subject isotopes must exceed 100 nanocuries per gram of waste material and from the use of plutonium in the fabrication of nuclear weapons. (3) Wastes that are contaminated with radioactive elements heavier than uranium, thus the name trans-(or beyond) uranic.

TRUCON – See TRUPACT-II Content Code.

TRUPACT-II Content Codes (TRUCON) – The document containing a description of the waste stream, waste form, and package configuration for each waste content code authorized for shipment in TRUPACT-II containers.

Unknown Waste Stream – Those waste streams for which there is insufficient process knowledge to assign a specific WMC.

Uranium (U) – A naturally radioactive element with the atomic number of 92 (number of protons in the nucleus) and an atomic weight of approximately 238. The two principal naturally occurring isotopes are the fissionable U-235 (0.7 percent of natural uranium) and the fertile U-

238 (99.3 percent of natural uranium). (Note: An alpha emitter [half-life 159,000 y], U-233 also spontaneously fissions; it is present in finite quantities in some TRU waste inventories at INEL and ORNL.)

Waste Acceptance Criteria (WAC) – The criteria used to determine if waste packages are acceptable.

Waste Form – The physical form of the waste such as sludges, combustibles, metals, etc.

Waste Generator/Storage Sites – The 10 largest DOE facilities and several smaller sites throughout the U.S. that produce and store TRU waste.

Waste Isolation Pilot Plant (WIPP) – (1) The project authorized under Section 213 of the DOE National Security and Military Applications of Nuclear Energy Authorization Act of 1980 (Public Law 96-164; 93 Stat. 1259, 1265) to demonstrate the safe, and environmentally sound, disposal of radioactive waste materials generated by atomic energy defense activities. (2) A research and development facility, located near Carlsbad, New Mexico, to be used for demonstrating a practical, long-term solution to a complex problem: the safe disposal in deep geologic repositories of TRU waste resulting from DOE activities. (3) The WIPP has two primary objectives. First, the WIPP is investigating the behavior of salt rock and interactions between the salt rock and radioactive wastes in a variety of forms. Second, the WIPP seeks to demonstrate the safe and efficient handling, transportation, and disposal of TRU waste in an actual facility.

Waste Material Parameter – A waste material that occurs in TRU waste that is an input parameter into one or more current SP or PA models, an SP or PA model under development, a potential future model, or is required to adequately describe the waste form.

Waste Matrix Code (WMC) – A DOE-developed coding system for organizing waste streams by their physical and chemical properties. A WMC is assigned to each waste stream by the DOE TRU waste generator/storage site. The WMC for each waste stream can be found in the Mixed Waste Inventory Report (DOE, 1994a). This coding system allows waste streams within the DOE TRU waste system that have similar physical and chemical waste form properties to be categorized together. WMCs also have been called "waste treatability codes" in other DOE documents. Appendix C contains the DOE guidance document to help categorize individual waste streams. An example of a WMC for "heterogeneous waste" would be 5400.

Waste Matrix Code Group (WMCG) – Consists of a series of WMCs that for SP or PA purposes has similar physical and chemical properties.

Waste Stream – Individually, those stored or projected wastes that are defined by a unique identifier in the MWIR.

Waste Stream Name – A site-specific, unique descriptive identifier for a TRU waste stream.

Waste Stream Profile – A description of a CH-TRU or RH-TRU waste stream destined for shipment to and disposal in WIPP, if authorized under permits and certifications by appropriate regulatory agencies for disposal in the WIPP repository. The waste stream profile is presented in tabular format and is intended to provide a summary of the important information about a particular waste stream.

Waste Stream Site ID – A site-specific alphanumeric identification code which provides a unique identifier for an individual TRU waste stream.

WIPP Waste Profile – Represents a summary of TRU waste at all DOE TRU waste generator/storage sites that have an identical WMCG.

APPENDIX B

APPENDIX B ACRONYMS AND ABBREVIATIONS

| | |
|----------------|---|
| AE | ANL-E site identifier |
| AL | Ames Laboratory |
| ANL-E | Argonne National Laboratory-East |
| AW | ANL-W site identifier |
| ANL-W | Argonne National Laboratory-West |
| CFR | Code of Federal Regulations |
| CH | contact handled |
| D&D | decontamination and decommissioning |
| DOE | U.S. Department of Energy |
| EPA | U.S. Environmental Protection Agency |
| ER | environmental restoration |
| ET | ETEC site identifier |
| ETEC | Energy Technology Engineering Center |
| FFCA | Federal Facility Compliance Act |
| GAO | U.S. General Accounting Office |
| ID | identification |
| IDB | Integrated Data Base |
| IDC | Item description code |
| IN | INEL site identifier |
| INEL | Idaho National Engineering Laboratory |
| IMWIR | Interim Mixed Waste Inventory Report (April 1993) |
| IT | International Technology Corporation |
| KA | KAPL site identifier |
| KAPL | Knolls Atomic Power Laboratory - Knolls Site |
| kg | kilograms |
| LA | LANL site identifier |
| LANL | Los Alamos National Laboratory |
| LB | LBL site identifier |
| LBL | Lawrence Berkeley Laboratory |
| LL | LLNL site identifier |
| LLNL | Lawrence Livermore National Laboratory |
| MD | Mound Plant |
| m ³ | cubic meters |
| mrem | millirem |
| MU | University of Missouri site identifier |
| MWIR | Mixed Waste Inventory Report |
| NID | Nonradionuclide Inventory Database |
| NMVP | No-Migration Variance Petition |
| NT | NTS site identifier |
| NTS | Nevada Test Site |
| OR | ORNL site identifier |
| ORNL | Oak Ridge National Laboratory |
| PA | performance assessment (in text only) |
| PA | PGDP site identifier (in waste profiles only) |
| PCB | polychlorinated biphenyls |
| PGDP | Paducah Gaseous Diffusion Plant |
| RCRA | Resource Conservation and Recovery Act |
| RF | RFP site identifier |
| RFP | Rocky Flats Plant |

| | |
|------------|---|
| RH | remote handled |
| RL | Richland (Hanford) site identifier |
| SA | SNL/NM site identifier |
| SNL/NM | Sandia National Laboratories/New Mexico |
| SP | systems prioritization |
| SR | SRS Site Identifier |
| SRS | Savannah River Site |
| TRU | transuranic |
| TRUCON | TRUPACT-II Content Codes |
| TRUPACT-II | Transuranic Package Transporter-II |
| TSCA | Toxic Substances Control Act |
| WAC | waste acceptance criteria |
| WIPP | Waste Isolation Pilot Plant |
| WMC | waste matrix code |
| WMCG | waste matrix code group |
| WS | waste stream |
| WTWBIR | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report |
| WV | WVDP site identifier |
| WVDP | West Valley Demonstration Project |

APPENDIX C

DOE Waste Treatability Groups Guidance

September 1993

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Final Draft

DOE WASTE TREATABILITY GROUPS GUIDANCE

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1. INTRODUCTION

This guidance document provides a standard methodology for categorizing waste information that should be implemented at DOE sites. This methodology will assist in the development of the final mixed waste inventory report, the Site Treatment Plans, preparation of the national Site Treatment Plan summary, and analyzing different national treatment options.

The U.S. Department of Energy (DOE) is required by the Resource Conservation and Recovery Act (RCRA), as amended on October 6, 1992 by the Federal Facility Compliance Act, to prepare an inventory report of its mixed wastes and treatment capacities and technologies. The purpose of the inventory report is to identify all mixed waste in the DOE system that is currently stored or will be generated over the next five years, provide an inventory of the existing and planned treatment capacity, and identify DOE's technology development efforts. To aid in identifying the appropriate treatment needs, the waste streams must be grouped according to their technological requirements in a consistent manner. This grouping or characterization will enable the waste streams to be matched to available treatment capacities either at the site or at another DOE facility as well as to identify treatment and technology development needs.

The Federal Facility Compliance Act also requires DOE to develop site treatment plans for each facility at which DOE generates or stores mixed waste. The plans must describe the development of treatment capacities and technologies for treating the site's mixed waste. These plans must be submitted to the State in which the site is located or to the U.S. Environmental Protection Agency (EPA) for review and approval, approval with modification, or disapproval. As discussed in the schedule for the development of the plans, published in the Federal Register on April 6, 1993, DOE intends to prepare two interim versions of the plan (i.e., conceptual plan and draft plan), in addition to the final plan, to facilitate discussions among states and other interested parties. DOE also intends to prepare a summary document (or national "roll up") for each of the conceptual, draft, and final plans to provide a national picture of DOE's technology needs and possible options for treatment of its mixed waste. To properly integrate the site plans into a cohesive national summary and to be able to use the national summary to help identify and evaluate DOE-wide treatment needs against treatment capacities and capabilities, and to develop treatment options, each site plan must be developed using the same technically-based approach for categorizing waste streams and identifying appropriate treatment.

1.1 BACKGROUND

The need for a consistently applied, technically-based approach for categorizing waste information has been demonstrated by past national strategic planning efforts involving mixed waste. Since the 1987 byproduct rulemaking, several complex-wide reports and studies have been prepared on mixed waste characteristics and inventories, and associated treatment technology and capacity needs. Most notable of these were the:

- National Report on Prohibited Wastes and Treatment Options, submitted to the Environmental Protection Agency (EPA) in January 1990 as required by the Rocky Flats Plant Federal Facility Compliance Agreement;
- DOE complex-wide Land Disposal Restrictions Case-by-Case Extension Application for Thirds Radioactive Mixed Wastes, submitted to the EPA in November 1991; and
- Interim Mixed Waste Inventory Report, submitted to the EPA and the States in April 1993 as required by the Federal Facility Compliance Act.

Throughout these efforts, characteristic and inventory data on mixed waste streams were collected from the sites resulting in the development of a national data set.

Two significant problems that became apparent throughout these efforts were: 1) mixed waste streams were not always defined on a technical basis that supported assessment of treatment technology and capacity needs, and 2) information and data available on mixed waste streams have improved through time, resulting in apparent inconsistencies between reports. A contributing factor to both these problems has been the lack of a technically-based approach to defining waste streams and the lack of a standardized method to define treatability groups.

Section 102(a)(3) of the Federal Facility Compliance Act waives sovereign immunity for Federal facilities for fines and penalties for violations of federal, state, interstate, and local hazardous and solid waste management requirements. This waiver is delayed for three years for any violations of the land disposal restrictions storage prohibition, RCRA section 3004(j), involving mixed waste at DOE facilities. This waiver is contingent upon the management of the waste being in compliance with all other applicable requirements. The Act further delays the waiver of sovereign immunity beyond the three year period at a facility if DOE is in compliance with an approved plan for developing treatment capacity and technologies for mixed waste generated or stored at the facility and an order requiring compliance with the plan.

DOE published in the Federal Register on April 6, 1993 a schedule for the development of the plans for treating mixed waste for each facility at which DOE generates or stores mixed waste. These plans will describe the use of existing capabilities, and the development of treatment capacities and technologies for treating the site's mixed waste. The Act allows the Plans to provide for centralized, regional or on-site treatment of mixed waste, or any combination thereof. DOE has proposed to prepare two interim versions of the plan, the Conceptual Site Treatment Plan (CSTP) and the Draft Site Treatment Plan (DSTP), to facilitate discussion between the site and the regulatory agency and among states, EPA, and other interested parties on technical and equity issues. The interim plans will also facilitate information exchange among the sites and regulatory agencies and help identify common technical problems and needs. The interim plans will provide information about the technology needs, existing and planned treatment facilities, and treatment options, including potential options for treating off-site wastes. Each site, if possible, will discuss its CSTP framework with the appropriate State or EPA, and will submit to the State or EPA, by October 1993, a CSTP that will provide a preliminary identification of options for treating the site's waste. DOE will summarize all CSTPs by preparing a national roll-up for various cross-cut treatment options. Based on the CSTPs, the national summary, and discussions among states, EPA, DOE and others, each site will submit a DSTP not later than August 1994 to identify the preferred option for treating its mixed waste. Each DOE site will submit the final Site Treatment Plan not later than February 1995 to the appropriate State or EPA for review and approval.

In order to properly integrate the site treatment plans into a cohesive national summary, to be able to use the national summary to help identify and evaluate DOE-wide treatment needs against treatment capacity and capabilities, and to develop treatment options, each Site Treatment Plan must be developed using the same technically-based approach for categorizing waste streams and identifying appropriate treatment. By using the same methodology, DOE sites will be able to share information across the complex on potential treatment technologies/treatment capacities for any specific category of waste. Therefore, this should assist the site in the development of various options with the site treatment plan.

The Act also requires the DOE to prepare an inventory report of its mixed wastes and treatment capacities and technologies. The interim report was submitted to EPA and the States in April 1993 as required by the Act. The inventory report as required by the Act contains:

- a national inventory of all mixed waste in the DOE system that are currently stored or will be generated over the next five years, including waste stream name, description, EPA waste codes basis for characterization, quantity stored that is subject to the Land Disposal Restrictions (LDRs) storage prohibition, quantity stored that is not subject to the LDRs, expected generation over the next five years, Best Demonstrated Available Technology (BDAT) used for developing the LDR requirements, waste minimization activities, and a statement of whether and how the radionuclide content alters or affects the use of treatments technologies; and
- a national inventory of mixed waste treatment capacities and technologies, including information such as the description, capacities, and locations of all existing and proposed treatment facilities, explanations for not including certain existing facilities in capacity evaluation, information to support decisions on unavailability of treatment technologies for certain mixed wastes, and the planned technology development activities.

The purpose of the inventory report is to identify all mixed waste in the DOE system and to be able to match these waste streams to the appropriate treatment. To accomplish this, the waste streams and their associated treatability groups must be identified consistently at all DOE sites so that the waste streams can be matched to available treatment capacities and to identify treatment needs and technology development needs complex-wide. DOE intends to revise the interim inventory report and to update it on an annual basis. The inventory report will act as the most up-to-date information source for DOE's mixed waste.

When developing the site treatment plans and updating the interim mixed waste inventory report, this guidance provides a technically-based method for categorizing waste streams based on the regulatory and technological requirements from different waste streams/waste packages. While developed primarily for mixed waste, the method may be applied to other DOE waste types, e.g., radioactive waste and hazardous waste.

1.2 PURPOSE AND SCOPE

The purpose of the guidance is to provide a technically-based methodology for categorizing DOE waste information in a consistent, and technically valid manner to be used for the development of the Site Treatment Plans and to update the Mixed Waste Inventory Report. The methodology provides a formal approach for categorizing waste based on waste characteristics. This guidance includes:

- A methodology with standard definitions for aligning site-specific wastes into treatability groups that share similar treatment needs;
- A standard structure that will allow comparing waste treatability groups among sites, and combining all site-specific data into one data set for the national summary and the mixed waste inventory report;
- A technically-based approach to identify treatment technology needs, treatment capacity needs, technology development needs, and storage and disposal requirements for DOE mixed waste.

The treatability group assignments will allow comparisons of basic treatment needs to available and planned treatment capacity. The assignment of a treatability group to a waste stream is not intended to provide the detailed level of knowledge necessary to certify waste streams to treatment or disposal facility waste acceptance criteria (WAC), or to provide detailed characterization information required to proceed

beyond conceptual design to specific facilities. Additional characterization of waste streams will be required to accomplish facility design and WAC certification.

2. METHODOLOGY OVERVIEW

The methodology for categorizing waste streams into treatability grouping is based on the premise that the key information necessary for identifying treatment methods/or assessing technology needs can be identified from the radiological, physical, and chemical properties of the waste and its contaminants. This methodology uses three characteristic parameters: radiological, bulk physical/chemical matrix, and contaminants.

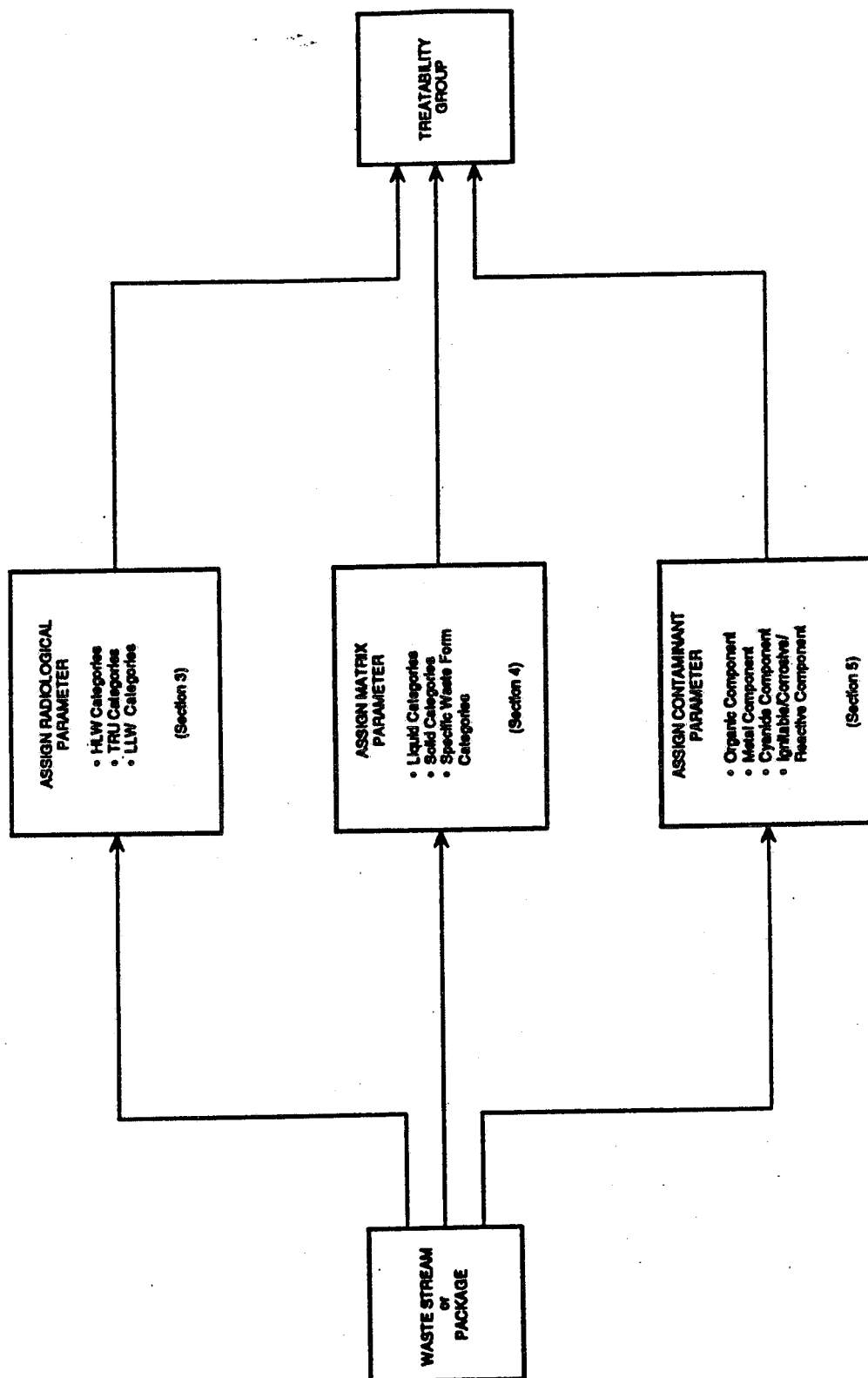
For the purposes of this guidance, waste streams should be consistent with those identified in the most current Mixed Waste Inventory report. For the Mixed Waste Inventory Report a waste stream is defined as "waste material generated from a single process or activity (e.g., a pipe or series of pipes from a single production process, replacement of a certain component of a production or support process (like a battery), or remediation activity like cleaning out a lagoon), covered by only one treatability group. For wastes stored in transportable containers, a waste stream should comprise at least one container (unless the material in the container is likely to be separated prior to sending it anywhere for processing). A single waste stream in storage may include several containers of waste material, but only if the material is from the same type of source and of essentially the same physical and chemical properties."¹ A single waste stream should be assigned to no more than one unique treatability group consisting of a single radiological and bulk physical/chemical matrix parameter. A single waste stream may have more than one contaminant parameter assigned to it.

Each of these parameters impacts treatment needs and/or technology determinations. The radiological parameter influences the design of the treatment facility to control radioactive releases and to prevent worker exposure. The matrix parameter identifies the physical/chemical properties of the waste and influences the facility design and technology selection. The contaminant parameter of the waste determines the type of treatment requirements from a regulatory and technical perspective. The contaminant parameter also influences any necessary follow-up or residual treatment and dictates any necessary effluent controls required. Combined, the parameters define a treatability group for the waste. Figure 1 displays the logic flow for identifying the relevant characteristic parameters for each waste type.

Sections 3, 4, and 5 of this report discuss the various categories under each characteristic parameter and provide definitions for these categories. The primary focus of this guidance document is to assign each waste to the lowest level subcategory based on the data available at the site on a given waste stream. Having detailed treatability group data could potentially influence the design of a planned treatment facility, enabling it to manage all wastes within a single (or set of) treatability group(s). In preparation of the national summary of the STPs, lower level subcategories may be rolled-up to the higher level categories for various general cross-cut evaluations. Detailed data will not be lost during the roll-up but will be available for more specific treatment and technology analyses. Section 6 provides guidelines for implementing the methodology and example applications. As more detailed characterization data becomes available the treatability group assignment of a waste stream may change. The most current, accurate information should be used in making the treatability group assignment.

1. Definition of "waste stream" from the Definitions for Key Mixed Waste Data Elements; Draft -- August 26, 1993.

Figure 1. Treatability Group Assignment Logic



3. RADIOLOGICAL PARAMETER

This section presents the categories and definitions for the radiological parameter. The radiological categories are based on the activity level of the waste and will influence the design of the facility to control radioactive releases and operator exposure. As shown in Figure 2, the primary radiological categories include:

- naturally occurring and accelerator produced radioactive materials,
- low-level waste,
- transuranic waste, and
- high-level waste.

These categories for the radiological parameter are based on definitions established in DOE Order 5820.2A. Following are the more specific categories and definitions within each of these general radiological categories.

3.1 NATURALLY OCCURRING AND ACCELERATOR PRODUCED RADIOLOGICAL CATEGORIES

Naturally occurring and accelerator produced radioactive materials (NARM) are defined by DOE Order 5820.2A as any radioactive material that can be considered naturally occurring and is not source, special nuclear, or byproduct material or that is produced in a charged particle accelerator. DOE Order 5820.2A specifies that NARM be managed as low-level waste or as tailings under the Uranium Mill Tailings Radiation control Act of 1978 (Public Law 95-604). The radiological hazards posed by these materials are similar to those from low-level waste. These materials are not included in the definition of mixed waste.

3.2 LOW-LEVEL WASTE RADIOLOGICAL CATEGORIES

Low-level waste is defined by DOE Order 5820.2A as all radioactive waste that are not classified as high-level waste, TRU waste, spent fuel, or uranium or thorium mill tailings. Mixed low-level waste is further categorized according to beta-gamma activity levels and levels of transuranic alpha contamination. Following are the category definitions.

3.2.1 Contact-Handled LLW

LL/CH Contact-Handled LLW

This category includes low-level waste that has an exposure rate of 200 mR/hr or less on contact.

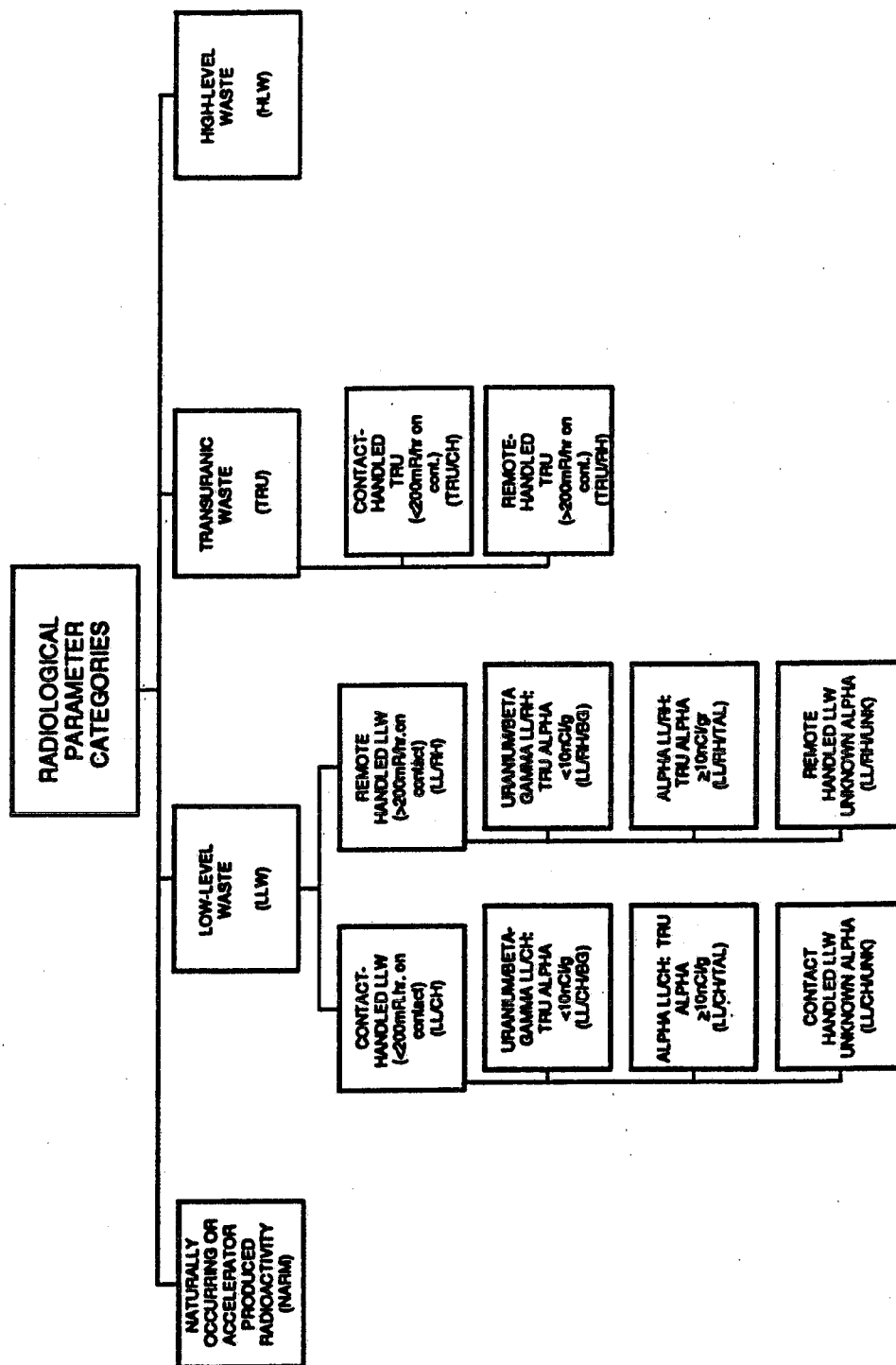
LL/CH/BG Uranium/Beta-Gamma LL/CH

This category includes contact handled low-level waste that contains transuranic isotopes with a combined transuranic alpha activity of less than 10 nCi/g. Alpha activity from uranium is not included in the limit.

LL/CH/TAL Transuranic Alpha LL/CH

This category includes contact handled low-level waste that contains transuranic isotopes with a combined alpha activities of greater than or equal to 10 nCi/g. Alpha activity from uranium is not included in this limit.

Figure 2. Radiological Parameter Categories



LL/CH/UNK Contact Handled LLW Unknown Alpha

This category includes contact handled low-level waste which has not been sufficiently characterized to determine the transuranic alpha activity.

3.2.2 Remote-Handled LLW

LL/RH Remote-Handled LLW

This category includes mixed low-level waste that has an exposure rate greater than 200 mR/hr on contact.

LL/RH/BG Uranium/Beta-Gamma LL/RH

This category includes remote handled low-level waste that contains transuranic isotopes with a combined transuranic alpha activity of less than 10 nCi/g. Alpha activity from uranium is not included in the limit.

LL/RH/TAL Transuranic Alpha LL/RH

This category includes remote handled low-level waste that contains transuranic isotopes with a combined alpha activities of greater than or equal to 10 nCi/g. Alpha activity from uranium is not included in this limit.

LL/RH/UNK Remote Handled LLW Unknown Alpha

This category includes remote handled low-level waste which has not been sufficiently characterized to determine the transuranic alpha activity.

3.3 TRANSURANIC WASTE RADIOLOGICAL CATEGORIES

Transuranic (TRU) waste, as defined by DOE Order 5820.2A refers to all radioactive waste that contain more than 100 nCi/g of alpha-emitting isotopes with atomic numbers greater than 92 and half-lives greater than 20 years. This definition includes isotopes of neptunium (Np), plutonium (Pu), americium (Am), curium (Cm), and californium (Cf). Transuranic waste is categorized according to beta-gamma activity levels as follows.

3.3.1 Contact-Handled TRU

TRU/CH Contact-Handled TRU

This category includes TRU waste having an exposure rate of 200 mR/hr or less on contact.

3.3.2 Remote-Handled TRU

TRU/RH Remote-Handled TRU

This category includes TRU waste having an exposure rate greater than 200 mR/hr on contact.

3.4 HIGH-LEVEL WASTE RADIOLOGICAL CATEGORIES

High-level waste (HLW) is defined by DOE Order 5820.2A as "... the highly radioactive waste material that results from the reprocessing of spent nuclear fuel, including the liquid waste produced directly in the reprocessing, and any solid waste derived from the liquid that contains a combination of transuranic waste and fission products in concentrations as to require permanent isolation." There are no definitive radiological subcategories defined in this guidance for HLW. Typically, waste determined to be high-level contains transuranic isotopes and is remote-handled.

4. MATRIX PARAMETER

This section presents the categories and definitions for the matrix parameter. The matrix parameter describes the bulk physical/chemical form of the waste. The physical/chemical form of the waste affects both the appropriate regulatory treatment requirements and the applicability of specific treatment technologies. In some cases, the physical/chemical form of the waste may dictate some type of pretreatment or design modification to accommodate special handling of the waste.

The matrix parameter categories and definitions are presented in five subsections of this guidance according to generic physical/chemical waste form classifications. The generic physical/chemical waste form classifications are:

- Liquids
- Solids
- Specific Waste Forms
- Unknown Matrix
- Final Waste Forms

The matrix parameter categories are shown in Figure 3. The following subsections present the categories and definitions for each of the above classifications.

4.1 LIQUIDS

These categories address waste streams that are liquid, including pumpable slurries. In general, slurries are considered pumpable with a total suspended/settled solids (TSS) content of up to approximately 35% to 40%. Only liquids and slurries packaged in bulk, free form (e.g. drum, tank) are included in these categories. Liquids and slurries packaged as lab packs are addressed elsewhere (see Section 4.3). Following are the category definitions.

4.1.1 Aqueous Liquids/Slurries

1000 Aqueous Liquids/Slurries

This category includes liquids and slurries containing less than 1% total organic carbon (TOC).

1100 Wastewaters

This category includes aqueous liquids/slurries containing less than 1% TSS.

1110 Acidic Wastewaters

This category includes wastewaters with a $\text{pH} \leq 2.0$.

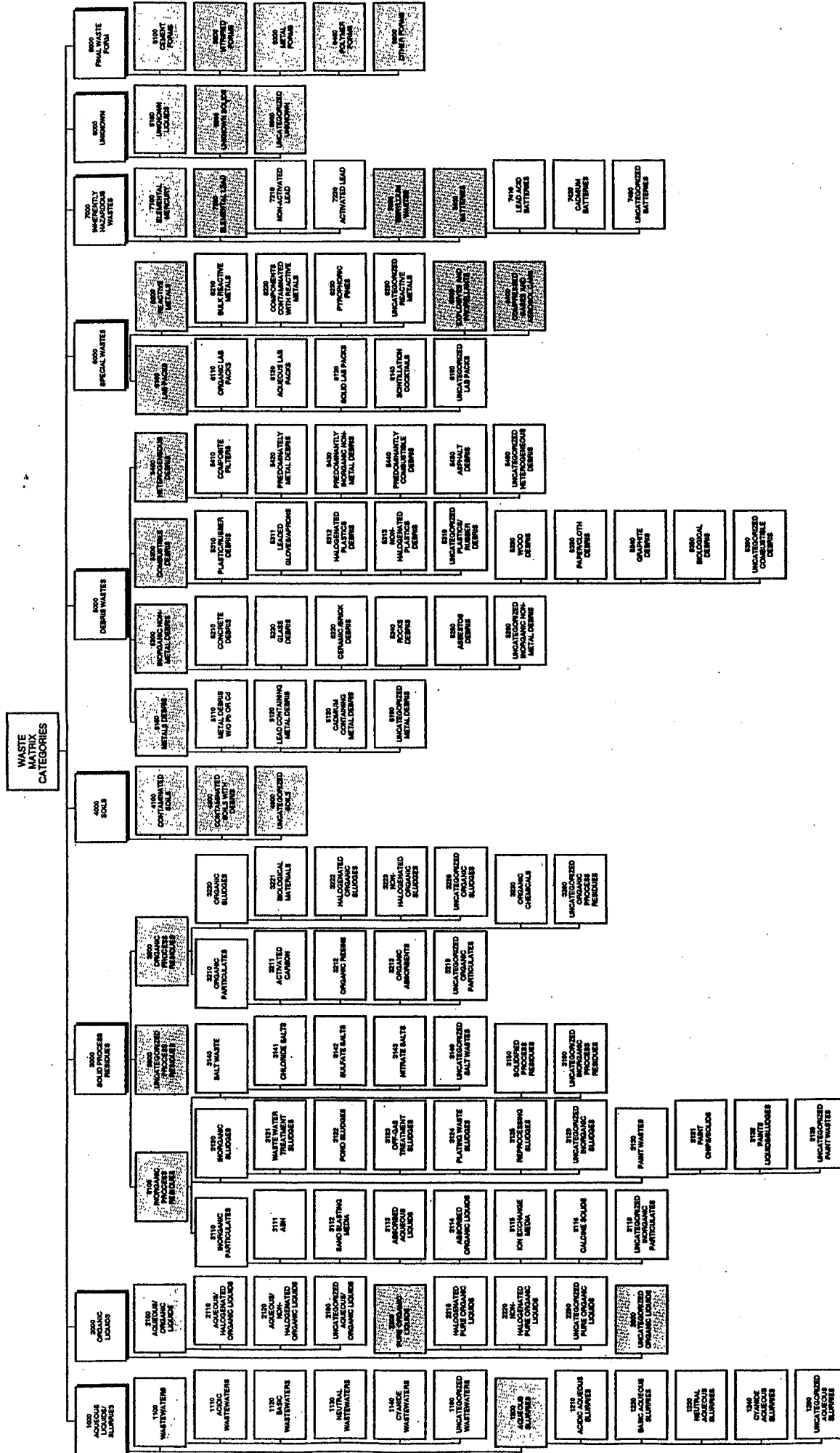
1120 Basic Wastewaters

This category includes wastewaters with a $\text{pH} \geq 12.5$. Basic wastewaters that contain cyanides at, or above, applicable LDR treatment standard levels are assigned to category 1140.

1130 Neutral Wastewaters

This category includes wastewaters with $2.0 < \text{pH} < 12.5$.

Figure 3. Matrix Parameter Categories



1140 Cyanide Wastewaters

This category includes basic wastewaters containing cyanides at, or above, applicable LDR treatment standard levels.

1190 Uncategorized Wastewaters

This category includes wastewaters that;

- 1) are insufficiently characterized to categorize more definitively into one of categories 1110 through 1140, or
- 2) do not meet the criteria for categorization into one of the 1110 through 1140 categories, or
- 3) are mixtures of two or more of the 1110 through 1140 categories.

1200 Aqueous Slurries

This category includes pumpable aqueous liquids/slurries with TSS \geq 1% or with an unknown TSS level.

1210 Acidic Aqueous Slurries

This category includes aqueous slurries with a pH \leq 2.0.

1220 Basic Aqueous Slurries

This category includes aqueous slurries with a pH \geq 12.5. Basic aqueous slurries that contain cyanides at, or above, applicable LDR treatment standard levels are assigned to category 1240.

1230 Neutral Aqueous Slurries

This category includes aqueous slurries with $2.0 < \text{pH} < 12.5$.

1240 Cyanide Aqueous Slurries

This category includes basic aqueous slurries containing cyanides at, or above, applicable LDR treatment standard levels.

1290 Uncategorized Aqueous Slurries

This category includes aqueous slurries that;

- 1) are insufficiently characterized to assign into one of categories 1210 through 1240, or
- 2) do not meet the criteria for assignment into one of the 1210 through 1240 categories, or
- 3) are mixtures of two, or more, of the 1210 through 1240 categories.

4.1.2 Organic Liquids

2000 Organic Liquids

This category includes liquids and slurries containing \geq 1% TOC.

2100 Aqueous/Organic Liquids

This category includes miscible and immiscible mixtures of aqueous and organic liquids. The TOC content of the mixture is at least 1% but less than about 99%.

2110 Aqueous/Halogenated Organic Liquids

This category includes aqueous/organic liquids that contain at least 1000 ppm halogenated organic compounds (HOC).

2120 Aqueous/Nonhalogenated Organic Liquids

This category includes aqueous/organic liquids that contain less than 1000 ppm HOC.

2190 Uncategorized Aqueous/Organic Liquids

This category includes aqueous/organic liquids for which it is not known whether the HOC content is less than, equal to, or greater than 1000 ppm.

2200 Pure Organic Liquids

This category includes liquids that are essentially purely organic (e.g. TOC > 99%).

2210 Halogenated Pure Organic Liquids

This category includes pure organic liquids that contain at least 1000 ppm HOC.

2220 NonHalogenated Pure Organic Liquids

This category includes pure organic liquids that contain less than 1000 ppm HOC.

2290 Uncategorized Pure Organic Liquids

This category includes pure organic liquids for which it is not known whether the HOC content is less than, equal to, or greater than 1000 ppm.

2900 Uncategorized Organic Liquids

This category includes liquids with TOC \geq 1% for which insufficient information is available to determine if the liquid is essentially purely organic (e.g. TOC > 99%).

4.2 SOLIDS

These categories address waste with physically solid matrices, including sludges. As opposed to slurries, sludges are considered nonpumpable. Solids are initially categorized according to the general classifications of process residues, soil, and debris. Figure 3 shows these general classifications and associated categories. Following are the category definitions.

4.2.1 Solid Process Residues

3000 Solid Process Residues

Solid Process Residues are defined in this guidance as solid materials, excluding soil, that do not meet the EPA criteria for classification as debris. Examples of solid process residues are sludge and particulate type materials. This category includes waste that are at least 50% by volume solid process residues. The balance of the matrix may be debris or soil.

3100 Inorganic Process Residues

This category includes waste that is at least 50% by volume inorganic process residues. These are defined as process residues with sufficient inorganic solids content such that a minimum of approximately 20% by weight of the waste would remain as residue (i.e. ash/solids) following incineration.

3110 Inorganic Particulates

This category includes waste that is at least 50% by volume inorganic particulates, including residual or absorbed liquids, if present. Typical examples of inorganic particulates are incinerator ash, dust, sand blasting residue, vermiculite, and ion exchange media.

3111 Ash

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) bottom or fly ash resulting from waste incineration.

3112 Sand Blasting Media

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) unused, or spent, surface cleaning or decontamination particulate material. Typical examples of surface cleaning or decontamination particulate materials are coarse sand and glass beads.

3113 Absorbed Aqueous Liquids

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) inorganic particulate absorbent materials, including absorbed aqueous liquids, if present. Typical examples of inorganic particulate absorbent materials are clay, vermiculite, and diatomaceous earth.

3114 Absorbed Organic Liquids

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) inorganic particulate absorbent materials with absorbed organic liquids. Typical examples of inorganic particulate absorbent materials are clay, vermiculite, and diatomaceous earth.

3115 Ion Exchange Media

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) unused, or spent, inorganic ion exchange resins.

3116 Calcined Solids

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) solid materials generated from the calcination of liquids. A specific example is the HLW calcine at the INEL.

3119 Uncategorized Inorganic Particulates

This category includes waste that is;

- 1) consistent with the definition for inorganic particulates but lack adequate characterization information for assignment into one of the 3111 through 3116 categories, or

- 2) consistent with the definition for inorganic particulates but inconsistent with the definitions for categories 3111 through 3116, or
- 3) a mixture of categories 3111 through 3116 with none contributing at least 50% by volume to the matrix.

3120 Inorganic Sludges

This category includes waste that is at least 50% by volume inorganic sludges. The inorganic sludge may be mixed with stabilization agents, such as cement, provided the mixture has not properly cured to form a solidified monolith (see category 3150). The inorganic sludge may also be mixed with inorganic particulate absorbent materials.

3121 Wastewater Treatment Sludges

This category includes waste that is at least 50% by volume secondary sludge or filtercake from wastewater treatment processes.

3122 Pond Sludges

This category includes waste that is at least 50% by volume inorganic sludge generated from the remediation of surface impoundments, such as evaporation or sedimentation basins.

3123 Off-Gas Treatment Sludges

This category includes waste that is at least 50% by volume inorganic sludge generated from wet off-gas treatment systems.

3124 Plating Waste Sludges

This category includes waste that is at least 50% by volume inorganic sludge generated from plating operations.

3125 Reprocessing Sludges

This category includes waste that is at least 50% by volume inorganic sludge generated from nuclear fuel reprocessing operations.

3129 Uncategorized Inorganic Sludges

This category includes waste that is;

- 1) consistent with the definition for inorganic sludges but lack adequate characterization information for assignment into one of the 3121 through 3125 categories, or
- 2) consistent with the definition for inorganic sludges but inconsistent with the definitions for categories 3121 through 3125, or
- 3) a mixture of categories 3121 through 3125 with none contributing at least 50% by volume to the matrix.

3130 Paint Waste

This category includes waste that is at least 50% by volume new, used, or removed paint.

3131 Paint Chips/Solids

This category includes waste that is at least 50% by volume solid, or unpourable paint. Examples of waste that might be included in this category are dried paint chips or containers filled with dried paint. Painting equipment (e.g. brushes, rollers, etc) are categorized as debris.

3132 Paint Liquids/Sludge

This category includes waste that is at least 50% by volume pourable paint. Examples of waste that might be included in this category are opened or unopened cans of paint.

3139 Uncategorized Paint Waste

This category includes waste that is;

- 1) consistent with the definition for salt waste but lack adequate characterization information for assignment into one of the 3131 and 3132 categories, or
- 2) consistent with the definition for salt waste but inconsistent with the definitions for categories 3131 and 3132.

3140 Salt Waste

This category includes waste that is at least 50% by volume salts, including interstitial liquids, if present.

3141 Chloride Salts

This category includes waste that is at least 50% by volume salts and contain more than trace (i.e. > 1000 ppm) levels of chlorides or other halogens.

3142 Sulfate Salts

This category includes waste that is at least 50% by volume salts and contain more than trace (i.e. > 1000 ppm) levels of sulfur compounds.

3143 Nitrate Salts

This category includes waste that is at least 50% by volume salts. The salts are predominantly nitrates.

3149 Uncategorized Salt Waste

This category includes waste that is;

- 1) consistent with the definition for salt waste but lack adequate characterization information for assignment into one of the 3141 through 3143 categories, or
- 2) consistent with the definition for salt waste but inconsistent with the definitions for categories 3141 through 3143, or
- 3) a mixture of categories 3141 through 3143 with none contributing at least 50% by volume to the matrix.

3150 Solidified Process Residues

This category includes waste that has been immobilized with cement, or other inorganic stabilization agents, and cured into a solidified form but do not meet disposal criteria.

3190 Uncategorized Inorganic Process Residues

This category includes waste that is;

- 1) consistent with the definition for inorganic homogeneous solids but lack adequate characterization information for assignment into one of the 3110 through 3150 categories, or
- 2) consistent with the definition for inorganic homogeneous solids but inconsistent with the definitions for categories 3110 through 3150, or
- 3) a mixture of categories 3110 through 3150 with none contributing at least 50% by volume to the matrix.

3200 Organic Process Residues

This category includes waste that is at least 50% by volume organic process residues. These are defined as process residues with a base structure that is primarily organic. The matrix may contain some inorganic solids content such that up to approximately 20% by weight of the waste would remain as residue (i.e. ash/solids) following incineration.

3210 Organic Particulates

This category includes waste that is at least 50% by volume organic particulates, including residual or absorbed liquids, if present. Typical examples of organic particulates are resins and activated carbon used in wastewater treatment, or particulate organic absorbent materials.

3211 Activated Carbon

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) spent or unused activated carbon. Activated carbon is typically used for removal of organic materials during off-gas or wastewater treatment operations.

3212 Organic Resins

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) spent or unused organic based resins, other than activated carbon, used in wastewater treatment or other applications. An example of waste that might be included in this category is organic ion exchange resins.

3213 Organic Absorbents

This category includes waste that is primarily (e.g. $\geq 50\%$ by volume) organic particulate absorbent materials, including any absorbed aqueous or organic liquids. Examples of waste that might be included in this category are sawdust or ground corn cobs with absorbed aqueous or organic liquids.

3219 Uncategorized Organic Particulates

This category includes waste that is;

- 1) consistent with the definition for organic particulates but lack adequate characterization information for assignment into one of the 3211 through 3213 categories, or
- 2) consistent with the definition for organic particulates but inconsistent with the definitions for categories 3211 through 3213, or
- 3) mixtures of categories 3211 through 3213 with none contributing at least 50% by volume to the matrix.

3220 Organic Sludges

This category includes waste that is at least 50% by volume organic sludges. Examples of waste streams included in this category are biological sludges and heavy, unpourable organic materials, such as tars or greases.

3221 Biological Materials

This category includes waste that is at least 50% by volume biological materials generated in treating wastewater from animals or people, or other biological materials that can not be classified as debris.

3222 Halogenated Organic Sludges

This category includes waste that is at least 50% by volume organic sludges which contain at least 1000 ppm HOC.

3223 Nonhalogenated Organic Sludges

This category includes waste that is at least 50% by volume organic sludges which contain less than 1000 ppm HOC.

3229 Uncategorized Organic Sludges

This category includes waste that is;

- 1) consistent with the definition for organic sludges but lack adequate characterization information for assignment into one of the 3221 through 3223 categories, or
- 2) consistent with the definition for organic sludges but inconsistent with the definitions for categories 3221 through 3223, or
- 3) mixtures of categories 3221 through 3223 with none contributing at least 50% by volume to the matrix.

3230 Organic Chemicals

This category includes waste that is at least 50% by volume solid, unused organic chemicals packaged in bulk form that are either being excessed or have expired. This category does not include solid organic chemicals packaged as lab packs (see Section 4.3).

3290 Uncategorized Organic Process Residues

This category includes waste that is;

- 1) consistent with the definition for organic homogeneous solids but lack adequate characterization information for assignment into one of the 3210 through 3230 categories, or
- 2) consistent with the definition for organic homogeneous solids but inconsistent with the definitions for categories 3210 through 3230, or
- 3) mixtures of categories 3210 through 3230 with none contributing at least 50% by volume to the matrix.

3900 Uncategorized Process Residues

This category includes waste that is;

- 1) consistent with the definition for homogeneous solids but lack adequate characterization information for assignment into one of the 3100 or 3200 categories, or
- 2) consistent with the definition for homogeneous solids but inconsistent with the definitions for categories 3100 or 3200.

4.2.2 Soils

4000 Soils

This category includes waste streams that are at least 50% by volume soil, including contamination from spills, etc. Soils are further categorized based on the amount of debris included in the matrix.

4100 Contaminated Soils

This category includes waste that is greater than approximately 95% by volume soil and rock, including contamination from spills, etc.

4200 Contaminated Soils/Debris

This category includes waste that is at least 50% by volume soil and 5% by volume other debris, not including rock. Rock materials that meet the criteria for debris should be included in the contaminated soil category (4100). This category includes contaminated soil and rock from spills etc., with the balance of the matrix being debris.

4900 Uncategorized Soils

This category includes waste that are;

- 1) consistent with the definition for soils but lack adequate characterization information for assignment into one of the 4100 or 4200 categories, or
- 2) consistent with the definition for soils but inconsistent with the definitions for categories 4100 or 4200.

4.2.3 Debris Waste

5000 Debris Waste

This category includes waste that is at least 50% by volume materials which meet the EPA criteria for classification as debris. These criteria are as follows:

"Debris means solid material exceeding a 60 mm particle size that is intended for disposal and that is: 1) a manufactured object, or 2) plant or animal matter, or 3) natural geologic material. However, the following materials are not debris: 1) any material for which a specific treatment standard is provided in Subpart D, Part 268, 2) process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and 3) intact containers of hazardous waste that are not ruptured and that retain at least 75% of their original volume. A mixture of debris that has not been treated to the standards provided by §268.45 and other material is subject to regulation as debris if the mixture is comprised primarily of debris, by volume, based on visual inspection." [40 CFR §268.2(g)]

"Hazardous Debris means debris that contains a hazardous waste, listed in Subpart D of Part 261, or that exhibits a characteristic of hazardous waste identified in Subpart C of Part 261." [40 CFR §268.2(h)]

5100 Metal Debris

This category includes debris that is approximately 95% by volume, or more, metal. Metal debris is further categorized according to lead and cadmium content.

5110 Metal Debris without Pb or Cd

This category includes debris that is approximately 95% by volume, or more, metal and do not contain any bulk, separable or bonded, lead or cadmium as part of the matrix.

5120 Lead Containing Metal Debris

This category includes debris that is approximately 95% by volume, or more, metal and contain bulk, separable or bonded, lead as part of the matrix. Examples of waste that might be included in this category are glovebox parts with lead clad in stainless steel or scrap metal that includes some lead bricks. This category does not include waste that meets the criteria for categorization as elemental lead or lead acid batteries (see Section 4.4).

5130 Cadmium Containing Metal Debris

This category includes debris that is approximately 95% by volume, or more, metal and contain bulk, separable or bonded, cadmium as part of the matrix. This category includes debris that is essentially entirely elemental cadmium, such as cadmium sheets. This category does not include cadmium batteries (see Section 4.4).

5190 Uncategorized Metal Debris

This category includes debris that is consistent with the definition for category 5100 but;

- 1) lack adequate characterization information for assignment into one of the 5110 through 5130 categories, or
- 2) contain both lead and cadmium, separable or bonded, as part of the bulk matrix.

5200 Inorganic Non-Metal Debris

This category includes waste that is approximately 95% by volume, or more, inorganic nonmetal debris.

5210 Concrete Debris

This category includes debris that is approximately 95% by volume, or more, concrete. An example of waste that might be included in this category is concrete chunks and blocks from decontamination and decommissioning activities. This category does not include waste solidified with cementitious stabilization agents (see Section 4.2).

5220 Glass Debris

This category includes debris that is approximately 95% by volume, or more, glass. Examples of waste that might be included in this category is leaded glass windows, bottles, or light bulbs. Crushed glass may be included in this category provided it meets the EPA particle size criteria for classification as debris.

5230 Ceramic/Brick Debris

This category includes debris that is approximately 95% by volume, or more, ceramic or brick materials. Examples of waste that might be included in this category are bricks, ceramic crucibles, and ceramic refractories.

5240 Rock Debris

This category includes debris that is approximately 95% by volume, or more, rock or gravel materials provided the particle size meets the EPA criteria for classification as debris.

5250 Asbestos Debris

This category includes debris that is approximately 95% by volume, or more, asbestos or asbestos based materials. Examples of waste that might be included in this category are asbestos containing gloves, firehoses, aprons, flooring tiles, pipe insulation, boiler jackets, and laboratory tabletops.

5290 Uncategorized Inorganic Non-Metal Debris

This category includes debris that is consistent with the definition for category 5200 but;

- 1) lack adequate characterization information for assignment into one of the 5210 through 5250 categories, or
- 2) inconsistent with the definitions for categories 5210 through 5250, or
- 3) is a mixture of the debris materials included in categories 5210 through 5250 with none contributing approximately 95% by volume, or more, to the matrix.

5300 Combustible Debris

This category includes debris that is approximately 95% by volume, or more, combustible materials. Examples of combustible debris are materials constructed of plastic, rubber, wood, paper, cloth, and graphite and biological materials.

5310 Plastic/Rubber Debris

This category includes debris that is approximately 95% by volume, or more, plastic and/or rubber materials. Examples of waste that might be included in this category

are plastic or rubber sheeting, containers, gloves, gaskets, and components of benelex or plexiglass.

5311 Leaded Gloves/Aprons Debris

This category includes debris that is approximately 95% by volume, or more, rubber materials which contain a high fraction of lead or lead compounds. Examples of waste that might be included in this category are leaded glovebox gloves or aprons.

5312 Halogenated Plastic Debris

This category includes debris that is approximately 95% by volume, or more, plastic/rubber materials which contain halogenated plastics, such as PVC, as part of the matrix.

5313 Nonhalogenated Plastic Debris

This category includes debris that is approximately 95% by volume, or more, plastic/rubber materials, excluding leaded gloves and aprons, which do not contain halogenated plastics as part of the matrix.

5319 Uncategorized Plastic/Rubber Debris

This category includes debris that is consistent with the definition for category 5310 but;

- 1) lack adequate characterization information for assignment into one of the 5311 through 5313 categories, or
- 2) inconsistent with the definitions for categories 5311 through 5313, or
- 3) is a mixture of the debris materials included in categories 5311 through 5313 with none contributing approximately 95% by volume, or more, to the matrix.

5320 Wood Debris

This category includes debris that is approximately 95% by volume, or more, wood or wood products other than paper. Examples of waste that might be included in this category are structural timbers, boxes, or pallets.

5330 Paper/Cloth Debris

This category includes debris that is approximately 95% by volume, or more, paper or cloth materials. Examples of waste that might be included in this category are protective clothing, rags, or wipes. Rags and wipes may contain some absorbed organic or aqueous liquids.

5340 Graphite Debris

This category includes debris that is approximately 95% by volume, or more, graphite based solid materials. Examples of waste that might be included in this category are crucibles, graphite components, and pure graphite.

5350 Biological Debris

This category includes debris that is approximately 95% by volume, or more, biological materials, including any chemical agents such as lime or formaldehyde.

Examples of waste that might be included in this category are biological samples and animal carcasses.

5390 Uncategorized Combustible Debris

This category includes debris that is consistent with the definition for category 5300 but;

- 1) lack adequate characterization information for assignment into one of the 5310 through 5350 categories, or
- 2) inconsistent with the definitions for categories 5310 through 5350, or
- 3) is a mixture of the debris materials included in categories 5310 through 5350 with none contributing approximately 95% by volume, or more, to the matrix.

5400 Heterogeneous Debris

This category includes waste that is at least 50% by volume debris materials which do not meet the criteria for assignment into categories 5100, 5200, or 5300 and associated subcategories. An example is waste that is essentially entirely debris but is not dominant (i.e. approximately 95% by volume, or more) in either metal, inorganic nonmetal, or combustible debris materials. Another example is waste that is at least 50% by volume debris materials with the balance being soil or solid process residues.

5410 Composite Filters

This category includes debris that is approximately 50% by volume, or more, HEPA or other filters constructed of more than one material type (i.e. metal, inorganic nonmetal, and combustible). Filters constructed of a single material type are assigned into the appropriate metal, inorganic nonmetal, combustible, or heterogeneous debris category depending on the composition of the entire waste matrix.

5420 Predominantly Metal Debris

This category includes debris that contains approximately 50% by volume, or more, but less than approximately 95% by volume metal materials. The balance of the matrix may be other types of debris materials (i.e. inorganic nonmetal, combustible), soil, or solid process residues.

5430 Predominantly Inorganic Non-Metal Debris

This category includes debris that contains approximately 50% by volume, or more, but less than approximately 95% by volume inorganic nonmetal materials. The balance of the matrix may be other types of debris materials (i.e. metal, combustible), soil, or solid process residues.

5440 Predominantly Combustible Debris

This category includes debris that contains approximately 50% by volume, or more, but less than approximately 95% by volume combustible materials. The balance of the matrix may be other types of debris materials (i.e. metal, inorganic nonmetal), soil, or solid process residues.

5450 Asphalt Debris

This category includes debris that is approximately 50% by volume, or more, asphalt or other bituminous materials. Examples of waste that might be included in this category are asphalt materials from roadways shingles, bituminous cement or other materials containing both tar and gravel.

5490 Uncategorized Heterogeneous Debris

This category includes debris that is consistent with the definition for category 5400 but;

- 1) lack adequate characterization information for assignment into one of the 5410 through 5450 categories, or
- 2) inconsistent with the definitions for categories 5410 through 5450, or
- 3) is a mixture of heterogeneous debris materials included in categories 5410 through 5450 with none contributing approximately 50% by volume, or more, to the matrix.

4.3 SPECIFIC WASTE FORMS

These categories address certain waste forms which require specific treatment technologies not expected to be common with other waste forms. Specific waste forms are initially categorized according to the general classifications of special waste or inherently hazardous waste. Figure 3 shows these general classifications and associated categories. Following are the category definitions.

4.3.1 Special Waste

6000 Special Waste

This category includes various specific waste forms which will require specific treatment methods that are not expected to be common with other waste forms. The waste forms include lab packs, reactive metals, explosives, and compressed gases and aerosols.

6100 Lab Packs

This category includes waste packaged as lab packs. In this guidance, lab packs are defined as waste with inner containers of free liquids or solid chemicals surrounded by absorbents and packaged within a larger outer container. The absorbents can be solid process residues materials or debris. Examples of absorbent materials include rags, vermiculite, diatomaceous earth, and paper wipes. This category does not include lab packs of elemental liquid mercury (see Section 4.3.2).

6110 Organic Lab Packs

This category includes lab packs that contain only organic liquids. This category does not include organic scintillation fluids contained in vials that are packaged in a lab pack configuration (see Category 6140).

6120 Aqueous Lab Packs

This category includes lab packs that contain only aqueous liquids. This category does not include aqueous scintillation fluids contained in vials that are packaged in a lab pack configuration (see Category 6140).

6130 Solid Lab Packs

This category includes lab packs of only solid chemicals or other solid materials.

6140 Scintillation Cocktails

This category includes scintillation fluids contained in vials that are packaged in a lab pack configuration.

6190 Uncategorized Lab Packs

This category includes lab packs that;

- 1) lack adequate characterization information for assignment into one of the 6110 through 6140 categories, or
- 2) are inconsistent with the definitions for categories 6110 through 6140, or
- 3) contain two, or more, of the above listed specific lab pack category materials (organic liquids, aqueous liquids, and solid chemicals).

6200 Reactive Metals

This category includes reactive metal waste. In this guidance, these are defined as waste meeting the criteria for classification as water reactive or ignitable reactive per the Third Third LDR rule (55FR 22545 and 22553). Typically these waste streams are sodium metal or sodium metal alloys, but can also include particulate fines of aluminum, uranium, zirconium, or other pyrophoric materials. The waste may be mixed with stabilizing materials.

6210 Bulk Reactive Metals

This category includes waste that is essentially bulk reactive metals and meets the criteria for classification as water reactive per the Third Third LDR rule. Typically this waste is sodium metal or sodium metal alloys.

6220 Components Contaminated with Reactive Metals

This category includes piping, pumps and other retired equipment waste that is considered water reactive per the Third Third LDR rule due to reactive metal contamination. The bulk of the material is not reactive metals, but the reactive metals require treatment before disposal.

6230 Pyrophoric Fines

This category includes waste that is essentially bulk materials which meets the criteria for classification as ignitable reactive per the Third Third LDR rule. Examples are fines of aluminum, uranium, zirconium, or other pyrophoric materials. The waste may be mixed with stabilizing materials.

6290 Uncategorized Reactive Metals

This category includes reactive metal waste with characteristics that are not consistent with the definitions for categories 6210 through 6230.

6300 Explosives/Propellants

This category includes waste consisting of substances which undergo rapid chemical transformations which produce large amounts of gases and heat. The gases rapidly expand at velocities exceeding the speed of sound (due to the heat of reaction), which creates a shock

wave and explosion. Waste that meets this definition should be identified here regardless of the specific physical form. Liquid nitroglycerine, for instance, should be categorized as explosive and not organic liquid. Similarly, TNT would be categorized as explosive rather than solid process residue.

6400 Compressed Gases/Aerosols

This category includes waste meeting the criteria for classification as ignitable compressed gases per the Third Third LDR rule (55FR 22545). Typically, this is waste consisting of pressurized gas cylinders or aerosol cans. Depressurized gas cylinders or aerosol cans would not be included in this category. These would be categorized into the appropriate debris category (see Section 4.2.2).

4.3.2 Inherently Hazardous Waste

7000 Inherently Hazardous Waste

This category includes waste in which the entire matrix is hazardous, such as elemental lead, or which the entire waste form is regulated, such as batteries.

7100 Elemental Mercury

This category includes waste that is bulk, pourable liquid mercury. The liquid mercury may be packaged in small containers within a larger container holding other materials (e.g. lab pack configuration).

7200 Elemental Lead

This category includes waste that contain at least 50% by volume bulk elemental lead. Examples of waste in this category are lead bricks, sheets, and pipes.

7210 Non-Activated Lead

This category includes waste meeting the above criteria for categorization as elemental lead in which the elemental lead shapes are only surface contaminated with radionuclides.

7220 Activated Lead

This category includes waste meeting the above criteria for categorization as elemental lead in which the elemental lead shapes are activated.

7300 Beryllium Waste

This category includes waste that is essentially beryllium dust or beryllium chips and fines that may also contain beryllium dust. This category does not include debris waste that is contaminated with beryllium dust.

7400 Batteries

This category includes waste consisting of batteries. The batteries may be packaged with absorbent materials (e.g. particulates, rags, etc.).

7410 Lead Acid Batteries

This category includes waste consisting of drained or undrained lead acid batteries.

7420 Cadmium Batteries

This category includes waste consisting of cadmium batteries.

7490 Uncategorized Batteries

This category includes waste consisting of batteries that;

- 1) lack adequate characteristic information to determine battery type, or
- 2) is of a type other than lead acid or cadmium, or
- 3) is a mixture of the above, or other, types.

4.4 UNKNOWN MATRIX

These categories address waste with insufficient characterization information to enable assignment into any of the categories addressed in Sections 4.1, 4.2, and 4.3. The categories are shown in Figure 3. Following are the category definitions.

4.4.1 Unknown Matrix

8000 Unknown Matrix

There are three unknown matrix subcategories as defined below.

8100 Unknown Liquids

This category includes bulk liquid or slurry waste which can not be further categorized as aqueous or organic (see Section 4.1) because it is not known if the TOC level is less, or greater than 1%.

8200 Unknown Solids

This category includes solid waste for which insufficient characterization information exists to further categorize as a solid process residue, soil, or debris per the definitions of Section 4.2.

8900 Uncategorized Unknown

This category includes waste for which insufficient characterization information is known to enable categorization as a liquid or solid (see Sections 4.1 and 4.2) or as one of the specific waste forms (see Section 4.3).

4.5 FINAL WASTE FORMS

These categories address final waste forms that meet disposal criteria, including applicable LDR treatment standards. Figure 3 shows the categories. Following are the category definitions.

4.5.1 Final Waste Forms

9000 Final Waste Forms

There are five subcategories of final waste forms as defined below.

9100 Cement Forms

This category includes waste that has been immobilized with grout or other cement type binders and meet disposal criteria, including applicable LDR treatment standards.

9200 Vitrified Forms

This category includes waste that has been immobilized via vitrification and meet disposal criteria, including applicable LDR treatment standards.

9300 Metal Forms

This category includes metal waste that has been consolidated or decontaminated and are ready for disposal or recycle.

9400 Polymer Forms

This category includes waste that has been immobilized with organic binders and meet disposal criteria, including applicable LDR treatment standards.

9900 Other Forms

This category includes all other final waste forms not addressed by categories 9100 through 9400 which meet disposal criteria, including applicable LDR treatment standards. Examples are amalgamated mercury and macroencapsulated lead.

5. CONTAMINANT PARAMETER

This section presents the categories and definitions for the contaminant parameter and instructions for assigning these categories. The contaminant categories are identified by the waste regulatory authority(s) and, for Federally RCRA regulated waste, is further defined by the types of hazardous contaminants and characteristics associated with the waste. These categories influence the treatment requirements for the waste from both a technical and regulatory perspective.

The regulatory authority classifications, used to identify the contaminant parameter, are as follows:

- Federally RCRA Regulated
- TSCA (PCB) Regulated
- State Regulated Hazardous Waste

The contaminant parameter is represented by a combination of all of the specific categories that are applicable to the waste. A waste stream may have more than one applicable contaminant category. The contaminant categories are shown in Figure 4.

A complete treatability group assignment for the contaminant parameter is represented by listing the combined contaminant categories that are applicable to the waste. The applicable categories should be listed in the following order:

| | |
|-----------------|------------|
| Organics | ORG |
| Metals | MET or MHG |
| Ignitable | I1...I9 |
| Corrosive | C9 |
| Reactive | R9 |
| TSCA Regulated | PCB |
| State Regulated | ST |

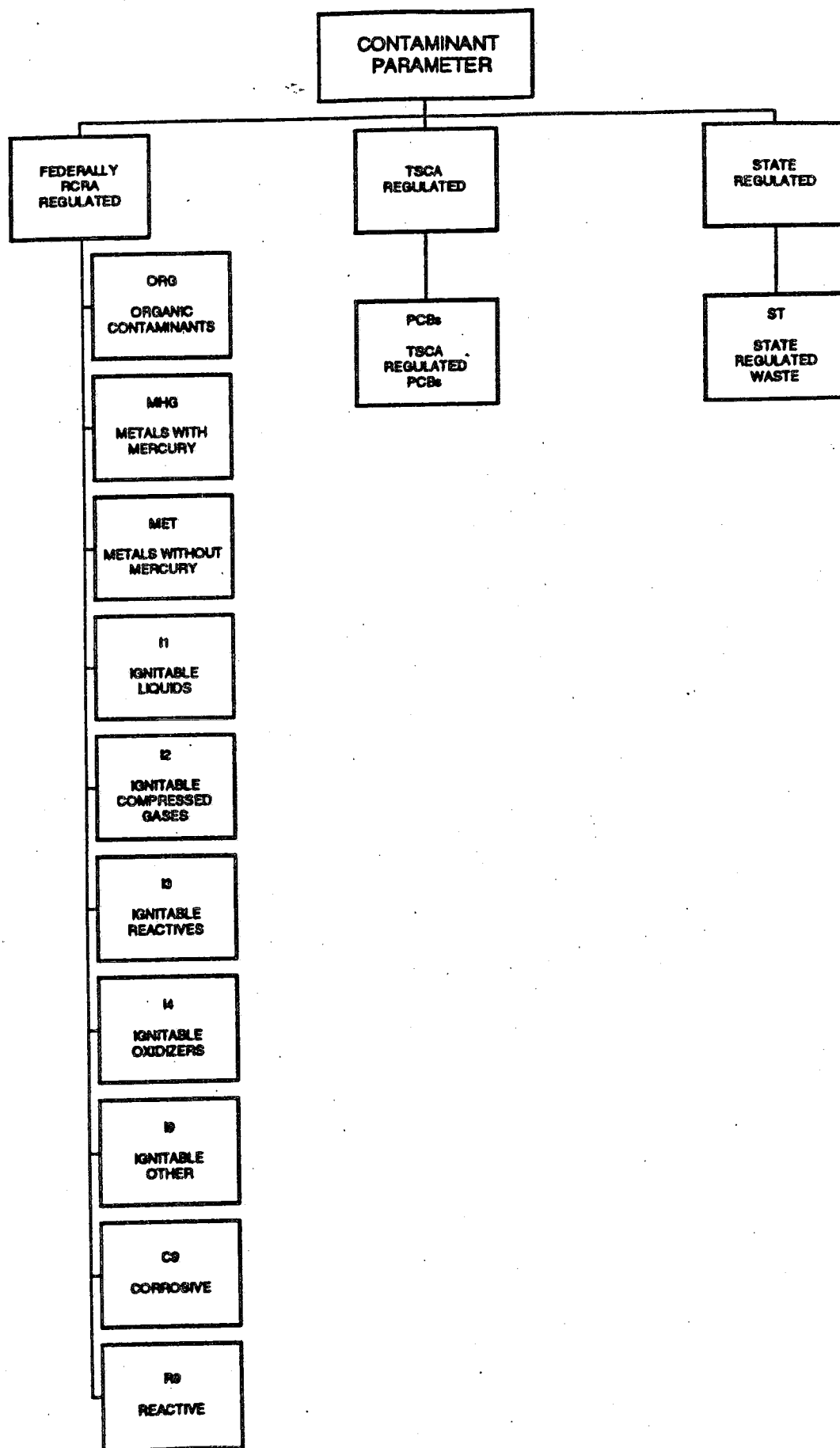
Various combinations of the contaminant categories can result in numerous possible contaminant parameters for Federally RCRA regulated waste. Following are the more specific category definitions.

5.1 FEDERALLY RCRA REGULATED

These wastes are hazardous pursuant to RCRA regulations promulgated by the EPA (i.e., 40 CFR 261). The contaminant parameter for waste in this regulatory authority classification are defined by five categories including:

- hazardous organics,
- metals,
- ignitability,
- corrosivity, and
- reactivity.

Following are the guidelines for determining the contaminant categories.



5.1.1 Organic Contaminants

ORG Organics

This category includes Federally RCRA regulated waste if the waste is assigned one, or more, of the EPA codes in Appendix A, Tables A-1 through A-8 indicating the presence of hazardous organics. The organic component is not included in cases where the only indicator of organic contamination is the presence of a listed EPA code for which LDR treatment standards have been met.

5.1.2 Metal Contaminants

MHG Metals With Mercury

This category includes Federally RCRA regulated waste if the waste is assigned one, or more, EPA hazardous waste codes indicating the presence of toxic metals, but specifically mercury, identified in Appendix A, Table A-12. Mercury is specifically emphasized over other toxic metals because of its prevalence in DOE waste and its effect on appropriate treatment technology selection, particularly with respect to effluent controls and recovery. This category is not included in cases where the only indicator of metal contamination is the presence of a listed EPA code for which LDR treatment standards have been met.

MET Metals Without Mercury

This category includes Federally RCRA regulated waste if the waste is assigned one, or more, EPA hazardous waste codes indicating the presence of toxic metals but does not include mercury, identified in Appendix A, Tables A-9 through A-11, but none of the EPA codes in Appendix A, Table A-12. This category is not included in cases where the only indicator of metal contamination is the presence of a listed EPA code for which LDR treatment standards have been met.

5.1.3 Ignitable Characteristic

I1 Ignitable Liquids

This category includes waste that is assigned the EPA hazardous waste code which indicates the characteristic of ignitability, D001, and meets the definition of ignitable liquids in the Third Third LDR rule (55 FR 22543).

I2 Ignitable Compressed Gases

This category includes waste that is assigned the EPA hazardous waste code which indicates the characteristic of ignitability, D001, and meets the definition of ignitable compressed gases in the Third Third LDR rule (55 FR 22543).

I3 Ignitable Reactives

This category includes waste that is assigned the EPA hazardous waste code which indicates the characteristic of ignitability, D001, and meets the definition of ignitable reactives in the Third Third LDR rule (55 FR 22543).

I4 Ignitable Oxidizers

This category includes waste that is assigned the EPA hazardous waste code which indicates the characteristic of ignitability, D001, and meets the definition of ignitable oxidizers in the Third Third LDR rule (55 FR 22543).

I9 Ignitable Other

This category includes waste that is assigned the EPA hazardous waste code which indicates the characteristic of ignitability, D001, but;

- 1) lacks adequate characterization information for assignment into one of the other ignitable categories, or
- 2) is a mixture of the other ignitable categories.

5.1.4 Corrosive Characteristic

C9 Corrosive

This category includes Federally RCRA regulated waste if the waste exhibits the characteristic of corrosivity as defined in 40 CFR 261 and is assigned the EPA hazardous waste code D002. More specific subcomponents of corrosivity to represent the LDR subcategories of acid, alkaline, and other are not included. The majority of waste that exhibits the characteristic of corrosivity will be acidic or basic aqueous liquids. These more specific corrosive characteristics are identified through assignment of the matrix category (see Section 4.1).

5.1.5 Reactive Characteristic

R9 Reactive

This category includes Federally RCRA regulated waste if the waste exhibits the characteristic of reactivity as defined in 40 CFR 261 and is assigned the EPA hazardous waste code D003. More specific subcomponents of reactivity to represent the LDR subcategories of reactive cyanides, reactive sulfides, reactive explosives, water reactives and other reactives are not included. These specific characteristics of reactivity are, in most cases, identified through assignment of the matrix category (see Sections 4.1 and 4.3).

5.2 TSCA (PCB) REGULATED PCBS

PCB TSCA

This category includes waste that is subject to TSCA regulation due to the presence of PCBs.

5.3 STATE REGULATED HAZARDOUS WASTE

ST State Regulated

This category includes waste that is defined as hazardous only under State regulations. Due to variations in the more stringent State regulations, this guidance does not propose a method of establishing more detailed contaminant categories based on State hazardous waste codes.

6. METHODOLOGY APPLICATION

This section provides some sample applications to demonstrate the treatability group assignment process. This section also provides examples of complete treatability group names.

6.1 SAMPLE APPLICATIONS

Example 1

Waste Data

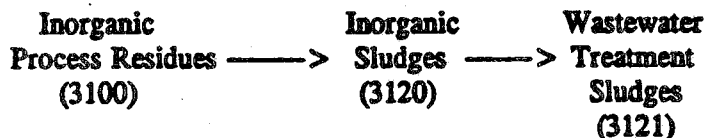
A waste stream is comprised of several 55 gallon drums containing waste from closure of a wastewater treatment facility. Physically, the waste is sludge consisting of metal hydroxide precipitates and water. On average, each drum contains over 90%, by volume, sludge.

Radiologically, the waste contains low-levels of miscellaneous fission products with exposure rates $< < 100$ mR/hr at drum surface. The waste contains transuranic isotopes $< < 10$ nCi/g. Sampling and analysis revealed the waste to contain levels of barium (D005), chromium (D007), and lead (D008) regulated by the EPA. The pH of the residual liquid was measured at 12.8 (D002). The waste is not PCB contaminated.

Parameter Category Assignments

Radiologically, the waste is low-level, contact-handled, and contains transuranic isotopes < 10 nCi/g. Referring to Section 3, the radiological category code for the waste is LL/CH/BG.

Referring to Section 4.1, the matrix characteristics meet the criteria for categorization as a process residue solid (Category 3000). The matrix characteristics further meet the criteria for assignment to the following successive subcategories associated with homogeneous solids:



Categorizing to the lowest level of detail, the matrix category is Wastewater Treatment Sludges.

Based on the EPA codes, the applicable components for defining the contaminant category are metals and corrosive. For metals, the most specific, applicable subcomponent is Metals Without Mercury (MET). Therefore, the contaminant category code for the waste is MET/C9.

Example 2

Waste Data

A waste stream is comprised of several 55 gallon drums containing "legacy" waste from past plutonium processing operations. Physically, each drum contains over 75% by volume of material meeting the LDR criteria for classification as debris. Available data indicates that, on average, each drum contains approximately 60% by volume combustible debris materials, such as plastic, paper and rags. On average,

the balance of each drum is approximately 20% by volume metal debris materials and 20% by volume vermiculite added as a drum filler.

Radiologically, the waste was considered transuranic when generated due to the presence of ≈ 80 nCi/g transuranic isotopes. Presently, however, the waste is considered low-level. The beta-gamma activity level is negligible. Based as process knowledge, the waste was assigned the F002 and D008 EPA codes. The waste is not PCB contaminated.

Parameter Category Assignment

Radiologically, the waste is low-level, contact-handled, and contains transuranic isotopes > 10 nCi/g. Referring to Section 3, the radiological parameter category code is LL/CH/TAL.

Referring to Section 4.1, the matrix characteristics meet the criteria for categorization as debris (Category 5000). The matrix characteristics further meet the criteria for assignment to the following successive subcategories associated with debris:

| | | |
|-----------------------------------|--------|--|
| Heterogeneous Debris (5400) | —————> | Predominantly Combustible Debris (5440) |
|-----------------------------------|--------|--|

Categorizing to the lowest level of detail, the matrix category is Predominantly Combustible Debris.

Based on the EPA codes, the applicable components for defining the contaminant category are organics and metals. For metals, the most specific, applicable subcomponent is Metals Without Mercury (MET). Therefore, the contaminant category code for the waste is ORG/MET.

6.2 EXAMPLE TREATABILITY GROUP NAMES

The complete treatability group name for a given waste is a combination of the applicable radiological, matrix, and contaminant categories as follows:

Radiological Category - Matrix Category - Contaminant Category

Following this logic, the complete treatability group names for the above two examples are:

Example 1: LL/CH/BG - Wastewater Treatment Sludges - MET/C9

Example 2: LL/CH/TAL - Predominantly Combustible Debris - ORG/MET

APPENDIX A

EPA CODES BY CONTAMINANT CATEGORY COMPONENTS

Table A-1. Nonhalogenated Toxicity Characteristic Organics

| EPA Code | Chemical Name |
|-----------------|----------------------|
| D018 | benzene |
| D023 | o-cresol |
| D024 | m-cresol |
| D025 | p-cresol |
| D026 | cresol |
| D030 | 2,4-dinitrotoluene |
| D035 | methyl ethyl ketone |
| D036 | nitrobenzene |
| D038 | pyridine |

Table A-2. Nonhalogenated Spent Solvents

| EPA Code | Chemical Name |
|-----------------|------------------------|
| F003 | Xylene |
| F003 | Acetone |
| F003 | Ethyl Acetate |
| F003 | Ethyl Benzene |
| F003 | Ethyl Ether |
| F003 | Methyl Isobutyl Ketone |
| F003 | n-Butyl Alcohol |
| F003 | Cyclohexanone |
| F003 | Methanol |
| F004 | Cresols |
| F004 | Cresylic Acid |
| F004 | Nitrobenzene |
| F005 | Toluene |
| F005 | Methyl Ethyl Ketone |
| F005 | Carbon Disulfide |
| F005 | Isobutanol |
| F005 | Pyridine |
| F005 | Benzene |
| F005 | 2-Ethoxyethanol |
| F005 | 2-Nitropropane |

Table A-3. Nonhalogenated P & U Listed Organics

| EPA Code | Chemical Name |
|-----------------|--------------------------------------|
| P001 | Warfarin (>0.3%) |
| P002 | 1-Acetyl-2-thiourea |
| P003 | Acrolein |
| P005 | Allyl alcohol |
| P007 | 5-Aminoethyl 3-isoxazolol |
| P008 | 4-Aminopyridine |
| P014 | Thiophenol (Benzene thiol) |
| P018 | Brucine |
| P020 | 2-sec-Butyl-4,6-dinitrophenol |
| P022 | Carbon Disulfide |
| P031 | Cyanogen |
| P034 | 2-Cyclohexyl-4,6-dinitrophenol |
| P038 | Diethylarsine |
| P039 | Disulfoton |
| P040 | Diethyl-p-pyrazinyl phosphorothioate |
| P041 | Diethyl-p nitrophenyl phosphate |
| P042 | Epinephrine |
| P044 | Dimethoate |
| P045 | Thiofanox |
| P046 | alpha, alpha-Dimethylphenethylamine |
| P047 | 4,6 Dinitrocresol |
| P048 | 2,4-Dinitrophenol |
| P049 | 2,4-Dithiobiuret |
| P054 | Aziridine |
| P062 | Hexaethyltetraphosphate |
| P064 | Isocyanic acid, ethyl ester |
| P066 | Methomyl |
| P067 | 2-Methylaziridine |
| P068 | Methyl hydrazine |
| P069 | Methylacetonitrile |
| P070 | Aldicarb |
| P071 | Methyl parathion |
| P072 | 1-Naphthyl-2-thiourea |
| P075 | Nicotine and salts |
| P077 | p-Nitroaniline |
| P081 | Nitroglycerin |
| P082 | N-Nitrosodimethylamine |
| P084 | N-Nitrosomethylvinylamine |

Table A-3. Nonhalogenated P & U Listed Organics (Continued)

| EPA Code | Chemical Name |
|---------------------|-------------------------------|
| P085 | Octamethylpyrophosphoramide |
| P088 | Endothall |
| P089 | Parathion |
| P092 | Phenyl Mercury Acetate |
| P093 | N-Phenylthiourea |
| P094 | Phorate |
| P097 | Famphur |
| P101 | Ethyl cyanide |
| P102 | Propargyl alcohol |
| P108 | Strychnine and salts |
| P109 | Tetraethyldithiopyrophosphate |
| P110 | Tetraethyl Lead |
| P111 | Tetraethyl Pyrophosphate |
| P112 | Tetranitromethane |
| P116 | Thiosemicarbazide |
| U001 | Acetaldehyde |
| U002 | Acetone |
| U003 | Acetonitrile |
| U004 | Acetophenone |
| U007 | Acrylamide |
| U008 | Acrylic acid |
| U009 | Acrylonitrile |
| U010 | Mitomycin C |
| U011 | Amitrole |
| U012 | Aniline |
| U014 | Auramine |
| U015 | Azaserine |
| U016 | Benz (c) acridine |
| U018 | Benz(a)anthracene |
| U019 | Benzene |
| U021 | Benzidine |
| U022 | Benzo(a)pyrene |
| U028 | Bis(2-ethylhexyl) pthalate |
| U031 | n-Butyl alcohol |
| U050 | Chrysene |
| U051 | Creosote |
| U052 | Cresols (Cresylic acid) |
| U053 | Crtonaldehyde |

Table A-3. Nonhalogenated P & U Listed Organics (Continued)

| EPA Code | Chemical Name |
|-----------------|-------------------------------------|
| U055 | Cumene |
| U056 | Cyclohexane |
| U057 | Cyclohexanone |
| U059 | Daunomycin |
| U063 | Dibenzo(a,h)anthracene |
| U064 | 1,2,7,8-Dibenzopyrene |
| U069 | Di-n-butyl phthalate |
| U085 | 1,2,3,4-Diepoxybutane |
| U086 | N,N-Diethylhydrazine |
| U087 | O,O-Diethyl S-methyldithiophosphate |
| U088 | Diethyl phthalate |
| U089 | Diethyl stilbestrol |
| U090 | Dihydrosafrole |
| U091 | 3,3-Dimethoxybenzidine |
| U092 | Dimethylamine |
| U093 | p-Dimethylaminoazobenzene |
| U094 | 7,12-Dimethyl benz(a)anthracene |
| U095 | 3,3'-Dimethylbenzidine |
| U096 | a,a-Dimethyl benzyl hydroperoxide |
| U098 | 1,1-Dimethylhydrazine |
| U099 | 1,2-Dimethylhydrazine |
| U101 | 2,4-Dimethylphenol |
| U102 | Dimethyl phthalate |
| U103 | Dimethyl sulfate |
| U105 | 2,4-Dinitrotoluene |
| U106 | 2,6-Dinitrotoluene |
| U107 | Di-n-octyl phthalate |
| U108 | 1,4-Dioxane |
| U109 | 1,2-Diphenylhydrazine |
| U110 | Dipropylamine |
| U111 | Di-n-propylnitrosoamine |
| U112 | Ethyl acetate |
| U113 | Ethyl acrylate |
| U114 | Ethylene bis-dithiocarbamic acid |
| U116 | Ethylene Thiourea |
| U117 | Ethyl ether |
| U118 | Ethyl methacrylate |

Table A-3. Nonhalogenated P & U Listed Organics (Continued)

| EPA Code | Chemical Name |
|-------------|--------------------------------------|
| U119 | Ethyl methane sulfonate |
| U120 | Fluoranthene |
| U122 | Formaldehyde |
| U123 | Formic acid |
| U124 | Furan |
| U125 | Furfural |
| U126 | Glycidyaldehyde |
| U137 | Indeno(1,2,3-c,d)pyrene |
| U140 | Isobutyl alcohol |
| U141 | Isosafrole |
| U143 | Lasiocarpine |
| U144 | Lead acetate |
| U146 | Lead subacetate |
| U147 | Maleic anhydride |
| U148 | Maleic hydrazide |
| U149 | Malononitrile |
| U152 | Methacrylonitrile |
| U153 | Methane thiol |
| U154 | Methanol |
| U155 | Methapyrilene |
| U157 | 3-Methylchloanthrene |
| U159 | Methyl ethyl ketone |
| U160 | Methyl ethyl ketone peroxide |
| U161 | Methyl isobutyl ketone |
| U162 | Methyl methacrylate |
| U163 | N-Methyl N'-nitro N-Nitrosoguanidine |
| U164 | Methylthiouracil |
| U165 | Naphthalene |
| U166 | 1,4-Naphthoquinone |
| U167 | 1-Naphthylamine |
| U168 | 2-Napthylamine |
| U169 | Nitrobenzene |
| U170 | 4-Nitrophenol |
| U171 | 2-Nitropropane |
| U172 | n-Nitroso-di-n-butylamine |
| U173 | N-Nitroso-di-n-ethanolamine |
| U174 | N-Nitrosodiethylamine |

Table A-3. Nonhalogenated P & U Listed Organics (Continued)

| EPA Code | Chemical Name |
|-------------|----------------------------|
| U176 | N-Nitroso-N-ethylurea |
| U177 | N-Nitroso-N-methylurea |
| U178 | N-Nitroso-N-methylurethane |
| U179 | N-Nitrosopiperidine |
| U180 | N-Nitrosopyrrolidine |
| U181 | 5-Nitro-o-toluidine |
| U182 | Paraldehyde |
| U186 | 1,3-Pentadiene |
| U187 | Phenacetin |
| U188 | Phenol |
| U189 | Phosphorus sulfide |
| U190 | Phthalic anhydride |
| U191 | 2-Picoline |
| U193 | 1,3-Propane sultone |
| U194 | n-Propylamine |
| U196 | Pyridine |
| U197 | p-Benzoquinone |
| U200 | Reserpine |
| U201 | Resorcinol |
| U202 | Saccharin and salts |
| U203 | Safrole |
| U206 | Streptozatocin |
| U213 | Tetrahydrofuran |
| U214 | Thallium (I) acetate |
| U218 | Thioacetamide |
| U219 | Thiourea |
| U220 | Toluene |
| U221 | Toluenediamine |
| U223 | Toluene diisocyanate |
| U234 | sym-Trinitrobenzene |
| U236 | Trypan Blue |
| U238 | Ethyl carbamate |
| U239 | Xylenes |
| U244 | Thiram |
| U248 | Warfarin ($\geq 3\%$) |
| U328 | Benzenamine, 2-methyl |
| U353 | Benzenamine, 4-methyl |
| U359 | 2-ethoxyethanol |

Table A-4. Halogenated Toxicity Characteristic Pesticides

| EPA Code | Chemical Name |
|-----------------|----------------------|
| D012 | Endrin |
| D013 | Lindane |
| D014 | Methoxychlor |
| D015 | Toxaphene |
| D016 | 2,4-D |
| D017 | Silvex |

Table A-5. Halogenated Toxicity Characteristic Organics

| EPA Code | Chemical Name |
|-----------------|-----------------------|
| D019 | Carbon tetrachloride |
| D020 | Chlordane |
| D021 | Chlorobenzene |
| D022 | Chloroform |
| D027 | 1,4-dichlorobenzene |
| D028 | 1,2-dichloroethane |
| D029 | 1,1-dichloroethylene |
| D031 | Heptachlor |
| D032 | Hexachlorobenzene |
| D033 | Hexachlorobutadiene |
| D034 | Hexachloroethane |
| D037 | Pentachlorophenol |
| D039 | Tetrachloroethylene |
| D040 | Trichloroethylene |
| D041 | 2,4,5-trichlorophenol |
| D042 | 2,4,6-trichlorophenol |
| D043 | Vinyl Chloride |

Table A-6. Halogenated Spent Solvents

| EPA Code | Chemical Name |
|----------|---------------------------------------|
| F001 | Tetrachloroethylene |
| F001 | Trichloroethylene |
| F001 | Methylene Chloride |
| F001 | 1,1,1-trichloroethane |
| F001 | Carbon Tetrachloride |
| F002 | 1,1,1-trichloroethane |
| F002 | Methylene Chloride |
| F002 | Trichloroethylene |
| F002 | Tetrachloroethylene |
| F002 | Chlorobenzene |
| F002 | 1,1,2-trichloro-1,2,2-trifluoroethane |
| F002 | Ortho-dichlorobenzene |
| F002 | Trichlorofluoromethane |
| F002 | 1,1,2-trichloroethane |

Table A-7. Halogenated Dioxins

| EPA Code | Chemical Name |
|----------|--|
| F020 | Tetra- and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodi-benzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts |
| F021 | penta- and hexachlorodibenzo-p-dioxins; penta- and hexachlorodibenzofurans; pentachlorophenol and its derivatives |
| F022 | tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans |
| F023 | tetra-, and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts |
| F024 | Numerous chlorinated hydrocarbons; benzene; toluene; naphthalene |
| F025 | Numerous chlorinated hydrocarbons; benzene; toluene; naphthalene |
| F026 | tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans |
| F027 | tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts |
| F028 | tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts |

Table A-8. Halogenated P & U Listed Organics

| EPA Code | Chemical Name |
|-----------------|---------------------------------|
| P004 | Aldrin |
| P016 | Bis(chloromethyl)-ether |
| P017 | Bromoacetone |
| P023 | Chloroacetaldehyde |
| P024 | p-Chloroaniline |
| P026 | 1-(o-Chlorophenyl) thiourea |
| P027 | 3-Chloro-propionitrile |
| P028 | Benzyl chloride |
| P033 | Cyanogen Chloride |
| P036 | Dichloro-phenylarsine |
| P037 | Dieldrin |
| P043 | Diisopropylfluorophosphate(DFP) |
| P050 | Endosulfan |
| P051 | Endrin |
| P057 | Fluoroacetamide |
| P058 | Fluoroacetic acid, sodium salt |
| P059 | Heptachlor |
| P060 | Isodrin |
| P095 | Phosgene |
| P118 | Trichloromethanethiol |
| P123 | Toxaphene |
| U005 | 2-Acetylaminofluorene |
| U006 | Acetyl Chloride |
| U017 | Benzal chloride |
| U020 | Benzenesulfonyl chloride |
| U023 | Benzotrichloride |
| U024 | bis(2-Chloroethoxy) methane |
| U025 | bis(2-Chloroethyl) ether |
| U026 | Chlornaphazin |
| U027 | bis(2-Chloroisopropyl) ether |
| U029 | Bromomethane |
| U030 | 4-Bromophenyl phenyl ether |
| U033 | Carbonyl fluoride |
| U034 | Trichloroacetaldehyde |
| U035 | Chlorambucil |
| U036 | Chlordane (alpha and gamma) |
| U037 | Chlorobenzene |
| U038 | Chlorobenzilate |

Table A-8. Halogenated P & U Listed Organics (Continued)

| EPA Code | Chemical Name |
|-------------|------------------------------------|
| U039 | p-Chloro-m-cresol |
| U041 | 1-Chloro-2,3-epoxypropane |
| U042 | 2-Chloro ethyl vinyl ether |
| U043 | Vinyl chloride |
| U044 | Chloroform |
| U045 | Chloromethane |
| U046 | Chloromethyl methyl ether |
| U047 | 2-Chloronaphthalene |
| U048 | 2-Chlorophenol |
| U049 | 4-Chloro-o-toluidine hydrochloride |
| U058 | Cyclophosphamide |
| U060 | DDD |
| U061 | DDT |
| U062 | Diallate |
| U066 | 1,2-Dibromo-3-chloropropane |
| U067 | 1,2-Dibromoethane |
| U068 | Dibromomethane |
| U070 | o-Dichlorobenzene |
| U071 | m-Dichlorobenzene |
| U072 | p-Dichlorobenzene |
| U073 | 3,3-Dichlorobenzidine |
| U074 | cis-1,4-Dichloro-2-butene |
| U075 | Dichlorodifluoromethane |
| U076 | 1,1-Dichloroethane |
| U077 | 1,2-Dichloroethane |
| U078 | 1,1-Dichloroethylene |
| U079 | 1,2-Dichloroethylene |
| U080 | Methylene chloride |
| U081 | 2,4-Dichlorophenol |
| U082 | 2,6-Dichlorophenol |
| U083 | 1,2-Dichloropropane |
| U084 | 1,3-Dichloropropene |
| U097 | Dimethylcarbomyl chloride |
| U121 | Trichloromonofluoromethane |
| U127 | Hexachlorobenzene |
| U128 | Hexachlorobutadiene |
| U129 | Lindane |
| U130 | Hexachlorocyclopentadiene |

Table A-8. Halogenated P & U Listed Organics (Continued)

| EPA Code | Chemical Name |
|-------------|--------------------------------------|
| U131 | Hexachloroethane |
| U132 | Hexachlorophene |
| U138 | Iodomethane |
| U142 | Kepone |
| U150 | Melphalan |
| U156 | Methyl chlorocarbonate |
| U158 | 4,4'-Methylene-bis-(2-chloroaniline) |
| U183 | Pentachlorobenzene |
| U184 | Pentachloropethane |
| U185 | Pentachloronitrobenzene |
| U192 | Pronamide |
| U207 | 1,2,4,5-Tetrachlorobenzene |
| U208 | 1,1,1,2-Tetrachloroethane |
| U209 | 1,1,2,2-Tetrachloroethane |
| U210 | Tetrachlorethylene |
| U211 | Carbon tetrachloride |
| U222 | o-Toluidine hydrochloride |
| U225 | Tribromomethane |
| U226 | 1,1,1-Trichloroethane |
| U227 | 1,1,2-Trichloroethane |
| U228 | Trichloroethylene |
| U235 | tris-(2,3-Dibromopropyl)-phosphate |
| U237 | Uracil mustard |
| U240 | 2,4-Dichlorophenoxyacetic acid |
| U243 | Hexachloropropene |
| U246 | Cyanogen Bromide |
| U247 | Methoxychlor |

Table A-9. Toxicity Characteristic Metals Without Mercury

| EPA Code | Regulated Metals |
|-----------------|-------------------------|
| D004 | Arsenic |
| D005 | Barium |
| D006 | Cadmium |
| D007 | Chromium |
| D008 | Lead |
| D010 | Selenium |
| D011 | Silver |

Table A-10. Plating Waste Metals Without Mercury

| EPA Code | Regulated Metal |
|-----------------|---|
| F006 | Cadmium, Chromium, Lead, Nickel, Silver |
| F007 | Cadmium, Chromium, Lead, Nickel, Silver |
| F008 | Cadmium, Chromium, Lead, Nickel, Silver |
| F009 | Cadmium, Chromium, Lead, Nickel, Silver |

Table A-11. P & U Listed Waste - Metals Without Mercury

| EPA Code | Chemical Name | Regulated Metal |
|-----------------|--------------------------|------------------------|
| P010 | Arsenic acid | Arsenic |
| P011 | Arsenic pentoxide | Arsenic |
| P012 | Arsenic trioxide | Arsenic |
| P013 | Barium cyanide | Barium |
| P015 | Beryllium dust | Beryllium |
| P036 | Dichloro-phenylarsine | Arsenic |
| P038 | Diethylarsine | Arsenic |
| P073 | Nickel Carbonyl | Nickel |
| P087 | Osmium tetroxide | Osmium Tetroxide |
| P099 | Potassium silver cyanide | Silver |
| P103 | Selenourea | Selenium |
| P104 | Silver cyanide | Silver |
| P110 | Tetraethyl Lead | Lead |
| P113 | Thallic oxide | Thallium |
| P114 | Thallium selenite | Selenium |
| P115 | Thallium (I) sulfate | Thallium |
| P119 | Ammonia vanadate | Vanadium |
| P120 | Vanadium petoxide | Vanadium |
| U032 | Calcium chromate | Chromium |
| U136 | Cacodylic acid | Arsenic |
| U144 | Lead acetate | Lead |
| U145 | Lead phosphate | Lead |
| U146 | Lead subacetate | Lead |
| U204 | Selenium dioxide | Selenium |
| U205 | Selenium sulfide | Selenium |
| U215 | Thallium (I) Carbonate | Thallium |
| U216 | Thallium (I) Chloride | Thallium |
| U214 | Thallium (I) acetate | Thallium |
| U217 | Thallium (I) nitrate | Thallium |

Table A-12. Mercury EPA Codes

| EPA Code | Chemical Name |
|-----------------|------------------------|
| D009 | Mercury |
| P065 | Mercury Fulminate |
| P092 | Phenyl Mercury Acetate |
| U151 | Mercury |

Table A-13. Listed EPA Codes - Cyanides

| EPA Code | Chemical Name |
|-----------------|-------------------------------------|
| F006 | Plating Wastes |
| F007 | Plating Wastes |
| F008 | Plating Wastes |
| F009 | Plating Wastes |
| P013 | Barium cyanide |
| P021 | Calcium Cyanide |
| P029 | Copper cyanide |
| P030 | Cyanides (soluble salts, complexes) |
| P063 | Hydrogen cyanide |
| P074 | Nickel cyanide |
| P098 | Potassium cyanide |
| P099 | Potassium silver cyanide |
| P104 | Silver cyanide |
| P106 | Sodium cyanide |
| P121 | Zinc cyanide |

APPENDIX D

APPENDIX D NON RADIONUCLIDE INVENTORY DATA SUMMARY

This Appendix presents a summary of the IDCs used in this report from the Non Radionuclide Inventory Database. The appendix is divided into two sections. The first section presents data for the IDCs used for solidified waste streams and the second section presents data for the IDCs used for heterogeneous and soil waste streams.

This appendix contains a summary of the data and does not present details on individual elements or chemical compounds which were listed for some IDCs. Instead this data presents data for chemical forms such as inorganics, organics, etc.

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SUMMARY OF NON RADIONUCLIDE INVENTORY DATA
FOR ARGONNE NATIONAL LABORATORY - EAST

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Non Radionuclide Inventory Data

Waste Form Description: COMBUSTIBLE WASTE (DDW >75% COMBUSTIBLE SOLIDS)

SITE: Argonne National Laboratory - East

Generator: AE

Storage Site: ID

IDC : 120

Container Type: SWB

Container Volume: 1.9 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------------|-----------------------|-----------------------|-----------------------|
| COMBUSTIBLES | 300 | 450 | 680 |
| GLASS | | 5 | 20 |
| METALS | | 70 | 120 |

Non Radionuclide Inventory Data

Waste Form Description: COMBUSTIBLE WASTE (DDW >75% NONCOMBUSTIBLE SOLI

SITE: Argonne National Laboratory - East

Generator: AE

Storage Site: ID

IDC : 121

Container Type: SWB

Container Volume: 1.9 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 50 | 120 | 230 |
| FILTER MEDIA | | 4 | 8 |
| GLASS | | 50 | 160 |
| INORGANICS | | 10 | 100 |
| METALS | 400 | 500 | 700 |

Non Radionuclide Inventory Data

Waste Form Description: COMBUSTIBLE WASTE (RGW >75% COMBUSTIBLE SOLIDS)

SITE: Argonne National Laboratory - East

Generator: AE

Storage Site: ID

IDC: 110

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 30 | 68 | 90 |
| GLASS | | 1 | 4 |
| METALS | | 1 | 3 |

Non Radionuclide Inventory Data

Waste Form Description: SOLIDIFIED LABORATORY WASTE (ABSORBED LIQUIDS)

SITE: Argonne National Laboratory - East

Generator: AE

Storage Site: ID

IDC : 131

Container Type: DRUM

Container Volume: 0.208 m³

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANIC SOLIDS | 21 | 21 | 21 |
| SLUDGES/LIQUIDS | 56 | 66 | 75 |

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SUMMARY OF NON RADIONUCLIDE INVENTORY DATA
FOR IDAHO NATIONAL ENGINEERING LABORATORY

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Non Radionuclide Inventory Data

Waste Form Description: METAL WASTE - (70-72)UNLEACHED LIGHT NON-SS (Fe,Cu,A

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC : 480

Container Type: DRUM

Container Volume: 0.222 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 5 | 15 |
| GLASS | | 0.5 | |
| INORGANICS | | 6 | |
| METALS | | 68.5 | |
| ORGANICS | | 0.001 | 0.6 |

Non Radionuclide Inventory Data

Waste Form Description: SOLID INORGANIC WASTE - ('70-'72) FIREBRICK

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 371

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 10 | |
| INORGANICS | | 119 | |
| ORGANICS | | 0.0005 | 0.005 |

Non Radionuclide Inventory Data

Waste Form Description: PYROCHEMICAL SALT WASTE - (72>) ELECTROREFINING SA

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 411

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|---------------------------|-----------------------|-----------------------|-----------------------|
| ELEMENTS/COMPOUNDS | | 17.3 | |
| INORGANICS | | 4 | |

Non Radionuclide Inventory Data

Waste Form Description: LEADED RUBBER GLOVES AND APRONS ('72>)

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 339

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 12 | 60 | 105 |
| INORGANICS | 1 | 6 | 15 |
| METALS | 12 | 53 | 105 |

Non Radionuclide Inventory Data

Waste Form Description: SOLID ORGANIC WASTE - (<72)BENELEX AND PLEXIGLAS

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 302

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 70 | |
| GLASS | | 5 | |
| INORGANICS | | 13 | |
| METALS | | 2 | |

Non Radionuclide Inventory Data

Waste Form Description: FILTER WASTE - (70-72)ABSOLUTE FILTERS

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 335

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| FILTERS | 10 | 33 | 100 |
| INORGANICS | | 2 | 4 |
| ORGANICS | | 0.005 | 0.042 |

Non Radionuclide Inventory Data

Waste Form Description: FILTER WASTE - (70-'72)CWS FILTERS

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 490

Container Type: DRUM

Container Volume: 0.228 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 2 | |
| FILTERS | | 49 | |
| INORGANIC COMPOUND | | 4 | 6 |
| ORGANICS | | 0.025 | 0.064 |

Non Radionuclide Inventory Data

Waste Form Description: GRAPHITE WASTE - MOLDS (<72 FNDRY)

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC : 300

Container Type: DRUM

Container Volume: 0.213 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| GRAPHITE | 10 | 71 | 170 |
| INORGANIC SOLIDS | | 6 | |
| ORGANICS | | 0.001 | 0.012 |

Non Radionuclide Inventory Data

Waste Form Description: GLASS WASTE - GLASS (70-72)

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 440

Container Type: DRUM

Container Volume: 0.227 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 5 | |
| GLASS | | 63 | |
| INORGANICS | | 3 | |
| ORGANICS | | 0.00001 | |

Non Radionuclide Inventory Data

Waste Form Description: SOLID INORGANIC WASTE - ('70-'72)LECO CRUCIBLES

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC : 370

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANICS | 10 | 110 | 260 |

Non Radionuclide Inventory Data

Waste Form Description: GRAPHITE WASTE - (72>)SCARFED CHUNKS

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 303

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------------|-----------------------|-----------------------|-----------------------|
| GRAPHITE | 8 | 67 | 87 |
| INORGANICS | | 6 | |

Non Radionuclide Inventory Data

Waste Form Description: HEAVY NON-SPECIAL SOURCE METALS (<72 - FOUNDRY)

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC : 320

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANICS | | 4 | |
| METALS | 10 | 58 | 220 |

Non Radionuclide Inventory Data

Waste Form Description: FILTER WASTE - (72>) PROCESSED FILTER MEDIA

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 376

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 3 | 8 |
| FILTERS | 5 | 38 | 110 |
| INORGANICS | | 15 | 25 |
| METALS | | 1 | 5 |
| ORGANICS | | 0.00016 | 0.092 |

Non Radionuclide Inventory Data

Waste Form Description: ORGANIC SOLID WASTE - (70-72) BLACKTOP, CONCRETE, SA

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC : 374

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 5 | |
| INORGANICS | 20 | 135 | 300 |
| ORGANICS | | 0.000495 | 0.18 |

Non Radionuclide Inventory Data

Waste Form Description: SOLID INORGANIC WASTE - (72>) OIL-DRI

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC : 375

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 8 | |
| INORGANICS | 45 | 116 | 200 |
| METALS | | 1 | |
| ORGANICS | | 0.5 | 13.5 |

Non Radionuclide Inventory Data

Waste Form Description: SOLID INORGANIC WASTE - (72>) FIREBRICK, COARSE

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC : 377

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 20 | |
| INORGANICS | 45 | 56 | 67 |

Non Radionuclide Inventory Data

Waste Form Description: GRAPHITE WASTE - COARSE (72>)

SITE: Idaho National Engineering Laboratory

Generator: RF

Storage Site: ID

IDC: 312

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| GRAPHITE | 6 | 55 | 70 |
| INORGANICS | | 6 | |
| ORGANICS | | 0.001 | 0.0035 |

Non Radionuclide Inventory Data

Waste Form Description: SOLIDIFIED SOLUTIONS (1973-'79)

SITE: Idaho National Engineering Laboratory

Generator: BC

Storage Site: ID

IDC: 204

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANICS | | 115.7 | |
| SLUDGES/LIQUIDS | | 113.6 | |

Non Radionuclide Inventory Data

Waste Form Description: HIGH LEVEL SLUDGE/CEMENT (1972>)

SITE: Idaho National Engineering Laboratory

Generator: MD

Storage Site: ID

IDC : 836

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------------|-----------------------|-----------------------|-----------------------|
| COMBUSTIBLES | | 11.9 | |
| SLUDGES/LIQUIDS | | 119.2 | |

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SUMMARY OF NON RADIONUCLIDE INVENTORY DATA
FOR LOS ALAMOS NATIONAL LABORATORY

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Non Radionuclide Inventory Data

Waste Form Description: METAL WASTE - NONCOMBUSTIBLES (DRUM)

SITE: Los Alamos National Laboratory

Generator: LA

Storage Site: LA

IDC : 005

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 3 | 24.6 | 50 |
| GLASS | | 0.1 | 1 |
| GRAPHITE | | 0.0005 | 0.1 |
| METALS | 50 | 56 | 205 |

Non Radionuclide Inventory Data

Waste Form Description: MIXED METAL SCRAP AND INCIDENTAL COMBUSTIBLES (S

SITE: Los Alamos National Laboratory

Generator: LA

Storage Site: LA

IDC : 001

Container Type: SWB

Container Volume: 1.9 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 500 | 524 | 580 |
| FILTERS | | 12 | |
| GLASS | | 40 | |
| METALS | | 2757.2 | |

Non Radionuclide Inventory Data

Waste Form Description: CEMENTED AQUEOUS WASTE

SITE: Los Alamos National Laboratory

Generator: LA

Storage Site: LA

IDC: 002

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANIC SOLIDS | 130 | 130 | 130 |
| SLUDGES/LIQUIDS | 250 | 260 | 265 |

Non Radionuclide Inventory Data

Waste Form Description: DEWATERED SLUDGE - SOLIDIFIED AQUEOUS WASTE

SITE: Los Alamos National Laboratory

Generator: LA

Storage Site: LA

IDC: 003

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANIC SOLIDS | 8 | 9 | 10 |
| SLUDGES/LIQUIDS | 150 | 200 | 220 |

Non Radionuclide Inventory Data

Waste Form Description: CEMENTED PROCESS RESIDUES

SITE: Los Alamos National Laboratory

Generator: LA

Storage Site: LA

IDC: 006

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 2.2 | 15 |
| GLASS | | 0.9 | |
| INORGANIC SOLIDS | | 160 | |
| ORGANICS | | 4.06 | |
| SLUDGES/LIQUIDS | | 88 | |

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SUMMARY OF NON RADIONUCLIDE INVENTORY DATA
FOR MOUND

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Non Radionuclide Inventory Data

Waste Form Description: COMBUSTIBLE WASTE

SITE: Mound

Generator: MD

Storage Site: ID

IDC : 827

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 33 | 57 | 147 |
| FILTERS | | 0.6 | 0.6 |
| INORGANICS | | 2 | 3 |
| METALS | | 0.05 | 0.05 |

Non Radionuclide Inventory Data

Waste Form Description: NON-COMBUSTIBLE TRU WASTE

SITE: Mound

Generator: MD

Storage Site: ID

IDC : 824

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 1 | 1 |
| GLASS | | 5 | 10 |
| METALS | 45 | 91 | 159 |

Non Radionuclide Inventory Data

Waste Form Description: SOIL

SITE: Mound

Generator: MD

Storage Site: ID

IDC: 842

Container Type: BOX

Container Volume: 4.205 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 3 | 3 |
| INORGANICS | 1943 | 2398 | 2852 |
| METALS | | 3 | 3 |
| ORGANICS | | 0.1 | 1 |

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SUMMARY OF NON RADIONUCLIDE INVENTORY DATA
FOR OAK RIDGE NATIONAL LABORATORY

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Non Radionuclide Inventory Data

Waste Form Description: SOLID WASTE - LABORATORY TYPE WASTE

SITE: Oak Ridge National Laboratory

Generator: OR

Storage Site: OR

IDC: 001

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 30 | 62 |
| FILTERS | | 0.5 | 5 |
| GLASS | | 10 | 125 |
| METALS | | 20 | 340 |

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SUMMARY OF NON RADIONUCLIDE INVENTORY DATA
FOR ROCKY FLATS PLANT

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Non Radionuclide Inventory Data

Waste Form Description: GRAPHITE WASTE - MOLDS

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 300

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------------|-----------------------|-----------------------|-----------------------|
| GRAPHITE | 8 | 67 | 87 |

Non Radionuclide Inventory Data

Waste Form Description: GRAPHITE WASTE - SCARFED CHUNKS

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 303

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| GRAPHITE | 8 | 67 | 87 |

Non Radionuclide Inventory Data

Waste Form Description: COMBUSTIBLE WASTE - DRY DRUM

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 831

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 22 | 164 | 200 |
| INORGANICS | | 0.6 | 1.5 |
| ORGANICS | | 0.0023 | 1 |

Non Radionuclide Inventory Data

Waste Form Description: COMBUSTIBLE WASTE - WET DRUM

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC: 832

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 6 | 164 | 200 |
| INORGANICS | | 0.6 | 1.5 |
| ORGANICS | | 0.0023 | 1 |

Non Radionuclide Inventory Data

Waste Form Description: COMBUSTIBLE WASTE - PLASTICS DRUM

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 833

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 18 | 164 | 200 |
| INORGANICS | | 0.5 | 1 |
| ORGANICS | | 0.0023 | 1 |

Non Radionuclide Inventory Data

Waste Form Description: METAL WASTE - LEAD

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 321

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| METALS | 16 | 63 | 190 |

Non Radionuclide Inventory Data

Waste Form Description: GLASS WASTE - RASCHIG RINGS DRUM

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 442

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| GLASS | 25 | 200 | 220 |
| INORGANICS | | 0.5 | 1 |

Non Radionuclide Inventory Data

Waste Form Description: SOLID INORGANIC WASTE - INSULATION

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC: 438

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| COMBUSTIBLES | 0.25 | 1 | 2 |
| GLASS | 5 | 40 | 60 |
| INORGANICS | | 0.5 | 1 |

Non Radionuclide Inventory Data

Waste Form Description: PYROCHEMICAL SALT WASTE - SPENT SALT

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 429

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------|----------------|----------------|----------------|
| ELEMENTS/COMPOUNDS | 10 | 45 | 118 |
| METALS | 0.1 | 2.5 | 3 |

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Non Radionuclide Inventory Data

Waste Form Description: PYROCHEMICAL SALT WASTE - DIRECT OXIDE REDUCTION

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC: 454

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------|----------------|----------------|----------------|
| ELEMENTS/COMPOUNDS | 10 | 45 | 118 |
| METALS | 1 | 2.5 | 3 |

Non Radionuclide Inventory Data

Waste Form Description: SOLIDIFIED AQUEOUS WASTE

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC: 800

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANIC SOLIDS | 36 | 82 | 110 |
| SLUDGES/LIQUIDS | 36 | 83 | 110 |

Non Radionuclide Inventory Data

Waste Form Description: SOLIDIFIED AQUEOUS WASTE

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 803

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kp/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANIC SOLIDS | 47 | 69 | 81 |
| SLUDGES/LIQUIDS | 47 | 69 | 81 |

Non Radionuclide Inventory Data

Waste Form Description: SOLIDIFIED AQUEOUS WASTE

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 807

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------------|-----------------------|-----------------------|-----------------------|
| INORGANIC SOLIDS | 36 | 82 | 110 |
| SLUDGES/LIQUIDS | 36 | 83 | 110 |

Non Radionuclide Inventory Data

Waste Form Description: SOLIDIFIED ORGANIC WASTE

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC: 801

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANIC SOLIDS | 35 | 91 | 112 |
| SLUDGES/LIQUIDS | 38 | 101 | 124 |

Non Radionuclide Inventory Data

Waste Form Description: SOLIDIFIED LABORATORY WASTE

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC: 802

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------------|-----------------------|-----------------------|-----------------------|
| INORGANIC SOLIDS | 65 | 150 | 177 |
| SLUDGES/LIQUIDS | 43 | 100 | 118 |

Non Radionuclide Inventory Data

Waste Form Description: CEMENTED INORGANIC PROCESS SOLIDS

SITE: Rocky Flats Plant

Generator: RF

Storage Site: ID

IDC : 806

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|---------------------|----------------|----------------|----------------|
| INORGANIC SOLIDS | 6 | 46 | 72 |
| INORGANICS | | 28.7 | 150.5 |
| ION EXCHANGE RESINS | | 7.3 | 100 |
| SLUDGES/LIQUIDS | 36 | 48 | 96 |

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SUMMARY OF NON RADIONUCLIDE INVENTORY DATA
FOR RICHLAND HANFORD

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Y

Non Radionuclide Inventory Data

Waste Form Description: MISCELLANEOUS SOLID WASTE

SITE: Richland Hanford

Generator: RH

Storage Site: RH

IDC: 001

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|--------------------|----------------|----------------|----------------|
| COMBUSTIBLES | | 5 | 20 |
| ELEMENTS/COMPOUNDS | | 0.001 | 0.005 |
| GLASS | | 0.2 | 1 |
| INORGANICS | | 10 | 20 |
| METALS | | 24 | 50 |

Non Radionuclide Inventory Data

Waste Form Description: ABSORBED ORGANICS -- COMPOSITE

SITE: Richland Hanford

Generator: RH

Storage Site: RH

IDC: 004

Container Type: DRUM

Container Volume: 0.208 m3

Waste Contents Kg/Container

| <u>Waste Form</u> | <u>Minimum</u> | <u>Average</u> | <u>Maximum</u> |
|-------------------|----------------|----------------|----------------|
| INORGANIC SOLIDS | | 5.6 | |
| SLUDGES/LIQUIDS | | 10 | |

APPENDIX E

APPENDIX E WASTE STREAM PROFILES

FOOTNOTES FOR THE WASTE STREAM PROFILES

1. Liquid waste streams are assumed to be solidified prior to sending to WIPP. A volume conversion of 2.5:1 is assumed for solidification.
2. WMCs 3000, 3900, 9100, and 9200 are placed in "solidified inorganic waste," "salt waste," or "solidified organic waste," depending on the information provided in the MWIR.
3. Particulate waste streams are assumed to be solidified prior to sending to WIPP. A volume conversion of 2.5:1 is assumed for solidifying particulate waste.
4. WMCs 6100 and 6190 are placed in "solidified organic waste," or "solidified inorganic waste," depending on the information provided in MWIR. Volume conversion is described in footnote 5.
5. Liquid lab pack waste is assumed to be solidified prior to sending to WIPP. It is assumed that the packing material in lab packs will be low-level waste when the liquid containers are removed. A volume conversion of 2.5:1 is assumed for solidification.
6. In error, mixed-residues were not reported in the MWIR for this waste stream (per verbal discussions with Rocky Flats Plant). Mixed residues were added as follows (GAO, 1992):
 - Incinerator Ash (IDCs 419, 420, 421, 425)
 - stored volume - 234 m³
 - projected volume - 0 m³
 - stored volume (to meet criticality and WIPP WAC requirements) - 1202 m³
7. WMCs 6200 and 6290 are placed in "solidified inorganic waste," "solidified inorganic waste," or "heterogeneous waste" if the waste stream must be solidified. They are placed in "unspecified metal waste," or "lead/cadmium metal waste" if they are primarily nonreactive metal contaminated with reactive metal. Reactive waste streams must be treated prior to shipment to WIPP.
8. Waste stream is assumed to be treated prior to shipment to WIPP. Volume change is dependent of the waste stream and treatment.
9. WMC 5000 is placed in "unspecified metal waste," "lead/cadmium metal waste," "inorganic nonmetal waste," "combustible waste," "graphite waste," "heterogeneous waste," or "filter waste," depending on the information in MWIR.
10. WMC 7000 and 9300 are placed in "unspecified metal waste" or "lead/cadmium metal waste," depending on the information in MWIR.
11. WMCs 7400, 7410, 7420, and 7490 are assumed to be drained of liquid and contain only metal waste.
12. These waste streams are excluded from disposal in WIPP at this time.
13. Adequate information is provided in MWIR to change the WMC from "unknown" to a more descriptive WMC. If there is not enough information in MWIR, these waste streams remain as "unknown" and are excluded from disposal in WIPP until characterized.

14. The TRU (non-mixed) volume and classification information were taken from the Phase I MWIR.
15. THESE ARE NOT ACTUAL SITE-GENERATED WASTE STREAMS. The TRU (non-mixed) volume was calculated from the difference between the 1993 IDB and the MWIR (Phase II). These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major TRU mixed streams.
16. The amount of steel in the container represents the drum only. The amount of metal in the disposal canister and plug is provided in the Section 5.
17. IDC was changed/assigned for the purposes of this report per the methodology described in Appendix J.
18. The Waste Matrix Code Grouping and/or IDC were assigned based on the distribution of the TRU-Mixed Waste from this site.
19. WMC was changed to be consistent with similar waste streams.
20. This TRU waste stream is classified as "unknown" because there was not adequate information available at the time of publication of this report to classify the waste stream. It is anticipated that characterization information can be generated by the site.
21. Insufficient information is available to determine the appropriate TRUCON code.
22. Insufficient information is available to determine the appropriate NMVP code.
23. Insufficient information is available to determine the Part B category.
24. This waste stream includes residues. The volume of the residue portion of this waste stream is consistent with the volumes reported by Rocky Flats Plant in their "ship as waste" residue scenarios, repackaged/processed to meet criticality and WIPP WAC requirements only (GAO, 1992).
25. The site IDC is not listed in TRUCON. The TRUCON and NMVP codes were assigned based on the TRUCON codes provided in the MWIR (Phase II).
26. There is not adequate information in MWIR to define this waste stream. It will remain in the "unknown" category and will be excluded from disposal in WIPP until characterized.
27. Part B codes are not applicable for non-mixed waste.

WASTE STREAM PROFILES

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|---------|
| DATABASE WS ID | AE-T01 | HANDLING | CH | FIELD OFFICE | Chicago |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------------|
| Site | Not Reported |
| Assigned | AE-131 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 17 |
| Projected | 142 |
| Total | 160 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 461.54 | 418.27 | 370.19 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 27

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | AE-T02 | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Unspecified Metal Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-321 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 0 |
| Projected | 48 |
| Total | 48 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

29-Jun-94

| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|---------|
| DATABASE WS ID | AE-T03 | HANDLING | CH | FIELD OFFICE | Chicago |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Unspecified Metal Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | RF-321 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 4 |
| Projected | 36 |
| Total | 40 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|----------------------------|--------------------------------|------------------------|---------|
| DATABASE WS ID | AE-W038 | HANDLING | CH | FIELD OFFICE | Chicago |
| WS NAME | MTRU Acidic Wastewater | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 6120 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | AE-131 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 3 |
| Projected | 2 |
| Total | 5 |

EPA CODE(s)

| |
|-------|
| D004A |
| D002B |
| D006A |

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|----------------------------|------------------|--------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Organic Matrix | | | |
| Solidified | Inorganic Matrix | 461.54 | 418.27 | 370.19 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 5, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | |
|---------------------------------------|------------------------|--------------------------|--------------------------------|
| DATABASE WS ID | AE-W039 | | |
| WS NAME | MTRU Organic Resins | | |
| HANDLING | CH | FIELD OFFICE | Chicago |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | |
| WASTE MATRIX CODE | - Site | 3212 | WIPP PART B APPLICATION |
| | - Group | Solidified Organic Waste | Information Incomplete |
| | | TRUCON | Information Incomplete |

Site Not Reported
Assigned RF-806.1

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

D006A

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 2012.02 | 625.00 | 164.90 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 21, 22, 23

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| | | | | | |
|--------------------------------|--------------------------------------|-------------------------|------------------------|------------------------|---------|
| DATABASE WS ID | AE-W040 | HANDLING | CH | FIELD OFFICE | Chicago |
| WS NAME | MTRU Evaporator Concentrator Sludges | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3121 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete | |

| | |
|----------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | RF-800 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| D009A |
| D007A |
| D006A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

29-Jun-94

| | | | |
|---------------------------------------|------------------------|--------------------------|--------------------------------|
| DATABASE WS ID | AE-W041 | | |
| WS NAME | MTRU Elemental Lead | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | |
| WASTE MATRIX CODE | - Site | 7210 | WIPP PART B APPLICATION |
| | - Group | Lead/Cadmium Metal Waste | Information Incomplete |
| | | TRUCON | Information Incomplete |
| HANDLING | CH | FIELD OFFICE | Chicago |

Site Not Reported

Assigned RF-321

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 1 |
| Total | 1 |

EPA CODE(s)

D008C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|---------------------------------|------------------------------|------------|------------|------------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

29-Jun-94

| | | | | | |
|--------------------------------|--------------------------|-------------------------|------------------------|------------------------|---------|
| DATABASE WS ID | AE-W042 | HANDLING | CH | FIELD OFFICE | Chicago |
| WS NAME | MTRU Cadmium Waste | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5130 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Lead/Cadmium Metal Waste | | TRUCON | Information Incomplete | |

| | |
|----------|--------|
| Site | IDC's |
| Assigned | RF-480 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | | | |
| | Celulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | | |
|--------------------------------|--|----------------------------|-------------------------|------------------------|------------------------|---------|
| DATABASE WS ID | AL-W005 | | HANDLING | CH | FIELD OFFICE | Chicago |
| WS NAME | MIXED TRANSURANICS/URANIUM IN GLOVEBOX | | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | | |
| WASTE MATRIX CODE | - Site | 1000 | WIPP PART B APPLICATION | Information Incomplete | | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete | |

Site **IDC's** Glovebox
Assigned RF-800

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| D006A |
| D007A |
| D002B |
| D004A |
| D011A |
| D008A |
| D010A |
| D005A |

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 2, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---------------------------------|--------------------------|--------------------------------|------------------------|---------|
| DATABASE WS ID | AW-W016 | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | ELECTROREFINER STRIPPER CADMIUM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3190 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | |

IBC's

Site CH-ANL-245T

Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 1 |
| Total | 1 |

EPA CODE(s)

D006A

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| Organics | Celulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| Solidified | Plastics | 67.57 | 15.09 | 0.00 |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 19, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | | |
|---------------------------------------|------------------------|-------------------------|--------------------------------|------------------------|---------------------|---------|
| DATABASE WS ID | AW-W018 | | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | SODIUM - TRU | | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | | |
| WASTE MATRIX CODE | - Site | 6200 | WIPP PART B APPLICATION | Information Incomplete | | |
| | - Group | Unspecified Metal Waste | TRUCON | Information Incomplete | | |

DC's

Site CH-ANL-180T

Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| D003D |
| D001C |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | 45.27 | 7.43 | 0.00 |
| Organics | Celulosics | 67.57 | 15.09 | 0.00 |
| | Rubber | | | |
| | Plastics | | | |
| | Solidified | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 7, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | | |
|--|------------------------------|-------------------------|--------------------------------|------------------------|------------------------|---------|
| DATABASE WS ID | AW-W019 | | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | SODIUM POTASSIUM - NAK - TRU | | | | | |
| NO MIGRATION VARIANCE PETITION Information Incomplete | | | | | | |
| WASTE MATRIX CODE | - Site | 6200 | WIPP PART B APPLICATION | Information Incomplete | | |
| | - Group | Unspecified Metal Waste | | TRUCON | Information Incomplete | |

| | |
|-----------------|-------------|
| Site | CH-ANL-182T |
| Assigned | RF-480 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| D003D |
| D001C |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | 45.27 | 7.43 | 0.00 |
| Solidified | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| | Organic Matrix | | | |
| Soils | Inorganic Matrix | | | |
| | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 7, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|-----------------------|------------------------|-------------------------|--------------|------------------------|
| DATABASE WS ID | AW-W020 | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | TRU-CD-HOT CELL WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | | Information Incomplete | | | |
| WASTE MATRIX CODE | - Site | 5400 | WIPP PART B APPLICATION | | Information Incomplete |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

IDC's
 Site CH-ANL-241T
 Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

D006A

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|----------------------------|-------------------------|--------------------------------|------------------------|---------|
| DATABASE WS ID | AW-W021 | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | ELEMENT HARDWARE FCF WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5100 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unspecified Metal Waste | TRUCON | Information Incomplete | |

IDC's

Site CH-ANL-243T

Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 1 |
| Total | 1 |

EPA CODE(s)

| |
|-------|
| D006A |
| D005A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Celulosics | 45.27 | 7.43 | 0.00 |
| Organics | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | | |
|---------------------------------------|-------------------------------------|----------------------------|--------------------------------|------------------------|---------------------|---------|
| DATABASE WS ID | AW-W022 | | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | ELECTROREFINER INSOLUBLES W/CADMIUM | | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | Information Incomplete | | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

Site CH-ANL-246T
Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

D006A

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|---------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Organic Matrix | | | |
| Solidified | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|------------------------------------|-----------------|--------------------------------|------------------------|---------|
| DATABASE WS ID | AW-W024 | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | SPENT HEPA FILTERS AND PRE-FILTERS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5410 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Filter Waste | TRUCON | Information Incomplete | |

Site CH-ANL-503
Assigned RF-490

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 7 |
| Projected | 0 |
| Total | 8 |

EPA CODE(s)

| |
|-------|
| D008A |
| D007A |
| D006A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 429.82 | 429.82 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | 8.77 | 8.77 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 17, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | BC-T01 | HANDLING | RH | FIELD OFFICE | Chicago |
| WS NAME | NON MIXED TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Unknown Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 0 |
| Projected | 368 |
| Total | 368 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|-----|--------|-----|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 20, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | BE-T01 | HANDLING | CH | FIELD OFFICE | Naval Reacto |
| WS NAME | NON MIXED TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Unknown Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 0 |
| Projected | 237 |
| Total | 237 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|-----|--------|-----|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 20, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|-------------------------|----|---------------------|------------------------|
| DATABASE WS ID | BE-T02 | HANDLING | RH | FIELD OFFICE | Naval Reacto |
| WS NAME | NON MIXED TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Unknown Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| DC's | |
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 7 |
| Total | 7 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|-----|--------|-----|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 20, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--------------------------------|----------|-------------------------------|--------------|---------|
| DATABASE WS ID | ET-T01 | HANDLING | CH | FIELD OFFICE | Oakland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | WIPP PART B APPLICATION | | Not Applicable | | |
| - Group | Lead/Cadmium Metal Waste | | TRUCON Information Incomplete | | |

| | |
|----------|--------------|
| Site | Not Reported |
| Assigned | RF-321 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 3 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | | | | | |
|--------------------------------|--|--------------------------------|--------------------------|-------------------------|--------|------------------------|--------------|--|---------|
| DATABASE WS ID | | ET-W002 | | HANDLING | | CH | FIELD OFFICE | | Oakland |
| WS NAME | | TRU LEAD SHIELDING (ONE BRICK) | | | | | | | |
| NO MIGRATION VARIANCE PETITION | | Information Incomplete | | | | | | | |
| WASTE MATRIX CODE | | - Site | 7200 | WIPP PART B APPLICATION | | Information Incomplete | | | |
| | | - Group | Lead/Cadmium Metal Waste | | TRUCON | Information Incomplete | | | |

Site **ET**

Assigned **RF-321**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

D008C

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 6, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W112 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | HEPA FILTERS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5410 | WIPP PART B APPLICATION | FILTERS (UNSPECIFIED) | | |
| - Group | Filter Waste | TRUCON | Information Incomplete | | |

Site ID-WIN-172
Assigned RF-490

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 20 |
| Projected | 204 |
| Total | 224 |

EPA CODE(s)

| |
|-------|
| F005A |
| F005A |
| P027 |
| P024 |
| P022 |
| P012 |
| P005 |
| F005B |
| F005A |
| F002 |
| F005A |
| D009F |
| F005A |
| P028 |
| F002 |
| F002 |
| P030 |
| F002 |
| F002 |
| F002 |
| F002 |
| F002 |
| F001 |
| F001 |
| F005A |
| D039 |
| D026 |
| D028 |
| D032 |
| D034 |
| D035 |
| D036 |
| D038 |
| F001 |
| D040 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 429.82 | 429.82 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | 8.77 | 8.77 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

| |
|-------|
| F001 |
| D007B |
| F001 |
| D021 |
| D019 |
| D018 |
| D011B |
| D010B |
| F001 |
| D008D |
| D006C |
| D005B |
| D004B |
| F002 |
| D022 |

Footnotes: 16, 17, 21, 22

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--------------------------------------|------------------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W139 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | TRANSURANIC CONTAMINATED LEAD DEBRIS | | | | |
| NO MIGRATION VARIANCE PETITION | | Information Incomplete | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | METAL (UNSPECIFIED) | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

| | |
|----------|--------------|
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 0 |
| Total | 5 |

EPA CODE(s)

D008C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | | | | |
| Organics | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| | | | | |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9, 16, 17, 21, 22

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|----------------------------|-------------------------|------------------------|------------------------|-------|
| DATABASE WS ID | IN-W146 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | TRU HEAVY METAL SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3129 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete | |

Site: Not Reported
Assigned: RF-800

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)

| |
|-------|
| D006A |
| D011A |
| D009A |
| D008A |
| D007A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16,17, 21, 22

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|---|--------------------------|-------------------------|-------------------|--------|
| DATABASE WS ID | IN-W157 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): SPECIAL SETUPS (CEMENT) | | | | |
| NO MIGRATION VARIANCE PETITION | ID 213 | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | SOLIDIFIED LIQUID | |
| | - Group | Solidified Organic Waste | | TRUCON | ID 213 |

Site ID-EGG-112T-004
Assigned RF-801

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 227 |
| Projected | 0 |
| Total | 227 |

EPA CODE(s)

| |
|-------|
| F001 |
| D002B |
| D008A |
| F001 |
| F001 |
| F002 |
| F003 |
| F003 |
| D006A |
| F003 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--|----------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W159 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED INORGANIC SLUDGE (TRU): EVAPORATOR AND DISSOLVER SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

| |
|-----------------------------|
| IDC's |
| Site ID-EGG-102T-811 |
| Assigned RF-806.2 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

| |
|-------|
| P015 |
| D001C |
| D009A |
| D009D |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16,17,21,22

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---------------------------------|---------------------------|-------------------------|------------------------------|-------|
| DATABASE WS ID | IN-W161 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CONCRETE-BRICK (TRU): FIREBRICK | | | | |
| NO MIGRATION VARIANCE PETITION | ID 122 | | | | |
| WASTE MATRIX CODE | - Site | 5230 | WIPP PART B APPLICATION | FIREBRICK AND CERAMIC CRUCIB | |
| | - Group | Inorganic Non-metal Waste | TRUCON | ID 222 | |

Site **IDC's** ID-EGG-115T-371
Assigned RF-371

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 111 |
| Projected | 0 |
| Total | 111 |

EPA CODE(s)

| |
|------|
| F001 |
| F001 |
| F002 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 572.12 | 572.12 | 0.00 |
| Organics | Celulosics | 24.04 | 24.04 | 0.00 |
| | Rubber | | | |
| | Plastics | 24.04 | 24.04 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------------|--------|
| DATABASE WS ID | IN-W163 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CONCRETE-BRICK (TRU): OIL-DRI RESIDUE FROM INCINERATOR | | | | |
| NO MIGRATION VARIANCE PETITION | ID 122 | | | | |
| WASTE MATRIX CODE | - Site | 3119 | WIPP PART B APPLICATION | FIREBRICK AND CERAMIC CRUCIB | |
| | - Group | Heterogeneous Waste | | TRUCON | ID 122 |

Site ID-EGG-115T-375
Assigned RF-375

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

| |
|------|
| F002 |
| F001 |
| F001 |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | 4.81 | 4.81 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 961.54 | 557.69 | 216.35 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | 38.46 | 38.46 | 0.00 |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 9

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|--------------------------|-------------------------|-----------------------|--------|
| DATABASE WS ID | IN-W164 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): ORGANIC AND SLUDGE IMMOBILIZATION SYSTEM WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 122 | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | ORGANIC LIQUID/SLUDGE | |
| | - Group | Solidified Organic Waste | | TRUCON | ID 112 |

| | |
|----------|-----------------|
| Site | ID-EGG-112T-700 |
| Assigned | RF-801 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)

| |
|------|
| F001 |
| F001 |
| F001 |
| F003 |
| D022 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 19

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|-------------------------|-----------------------------|--------------|-------|
| DATABASE WS ID | IN-W166 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): SOLID INORGANIC PROCESS SOLUTION | | | | |
| NO MIGRATION VARIANCE PETITION | ID 114 (3) | | | | |
| WASTE MATRIX CODE - Site | 3150 | WIPP PART B APPLICATION | INORGANIC PROCESS SOLIDS AN | | |
| - Group | Solidified Inorganic Waste | TRUCON | ID 114 (3) | | |

Site ID-EGG-112T-114
Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 71 |
| Projected | 0 |
| Total | 71 |

EPA CODE(s)

| |
|-------|
| F001 |
| F003 |
| F001 |
| F001 |
| F002 |
| F003 |
| F003 |
| D008A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 25

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|--------------------------|--------------------------------|------------------------------|-------|
| DATABASE WS ID | IN-W167 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): SOLID ORGANICS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 112 (3) | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | ORGANIC LIQUID/SLUDGE (UNSP) | |
| | - Group | Solidified Organic Waste | | TRUCON ID 112 (3) | |

| | |
|-----------------|-----------------|
| Site | ID-EGG-112T-112 |
| Assigned | RF-801 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 164 |
| Projected | 0 |
| Total | 164 |

EPA CODE(s)

| |
|------|
| F001 |
| D022 |
| F001 |
| F001 |
| F003 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 19, 25

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|---------------------|-------------------------|--------------|-------|
| DATABASE WS ID | IN-W169 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): DRY PAPER AND RAGS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 216 | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES | |
| | - Group | Heterogeneous Waste | TRUCON | ID 216 | |

Site ID's
 Site ID-EGG-114T-330
 Assigned RF-831

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 5775 |
| Projected | 0 |
| Total | 5775 |

EPA CODE(s)

| |
|-------|
| F001 |
| D008A |
| D008C |
| D022 |
| D029 |
| F001 |
| F001 |
| F003 |
| F001 |
| F003 |
| F001 |
| F005 |
| F005A |
| F002 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------|--------|--------|------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W170 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): DECONTAMINATION/DECOMMISSIONING WASTE COMBUSTIBLE SOLIDS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

Site ID-EGG-114T-120
Assigned AE-120

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| D008A |
| D006A |
| F003 |
| D004A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 63.16 | 36.84 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 10.53 | 2.63 | 0.00 |
| Organics | Celulosics | 450.95 | 213.16 | 47.37 |
| | Rubber | 7.16 | 2.37 | 0.00 |
| | Plastics | 57.26 | 21.32 | 1.58 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---|---------------------|-------------------------|--------------|------------------------|
| DATABASE WS ID | IN-W171 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): RESEARCH GENERATED WASTE COMPACTIBLE AND COMBUSTIBLE SOLIDS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

Site ID-EGG-114T-110
Assigned AE-110

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 4 |
| Projected | 0 |
| Total | 4 |

EPA CODE(s)

| |
|-------|
| F003 |
| D008A |
| D006A |
| D004A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 14.42 | 4.81 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 19.23 | 4.81 | 0.00 |
| Organics | Celulosics | 458.65 | 287.69 | 43.27 |
| | Rubber | 8.65 | 3.27 | 0.00 |
| | Plastics | 60.58 | 35.96 | 1.44 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|----------------------------------|---------------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W172 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): COMBUSTIBLES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

Site ID-EGG-114T-010
Assigned RF-831

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 166 |
| Projected | 0 |
| Total | 166 |

EPA CODE(s)

| |
|------|
| F002 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|---|----------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | IN-W174 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): HIGH LEVEL ACID | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3113 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

Site ID-EGG-112T-834
Assigned MD-836

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 151 |
| Projected | 0 |
| Total | 151 |

EPA CODE(s)

| |
|-------|
| D002A |
| D001C |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | 630.29 | 630.29 | 0.00 |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--|----------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W177 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): HIGH LEVEL CAUSTIC | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

Site ID-EGG-112T-835
Assigned MD-836

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 176 |
| Projected | 0 |
| Total | 176 |

EPA CODE(s)

D002B

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 630.29 | 630.29 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|------------------------|-------|
| DATABASE WS ID | IN-W179 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): HIGH LEVEL SLUDGE/CEMENT | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3150 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete | |

Site **IDC's**
ID-EGG-112T-836
Assigned MD-836

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 6 |
| Projected | 0 |
| Total | 6 |

EPA CODE(s)

| |
|-------|
| F001 |
| D002B |
| D006A |
| D007A |
| D008A |
| D009A |
| D010A |
| D011A |
| F001 |
| F003 |
| F003 |
| P015 |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 630.29 | 630.29 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|-----------------------|--------------|-------|
| DATABASE WS ID | IN-W181 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): LAUNDRY SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 211 | | | | |
| WASTE MATRIX CODE - Site | 3150 | WIPP PART B APPLICATION | INORGANIC WASTE WATER | | |
| - Group | Solidified Inorganic Waste | TRUCON | ID 211 | | |

| | |
|----------|-----------------|
| Site | ID-EGG-112T-978 |
| Assigned | RF-807 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 10 |
| Projected | 0 |
| Total | 10 |

EPA CODE(s)

| |
|-------|
| F001 |
| D002B |
| D006A |
| D007A |
| D008A |
| D009A |
| P015 |
| F001 |
| F003 |
| F001 |
| F002 |
| F003 |
| F003 |
| F001 |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|---------------------------------------|-------------------------|--------------|--------------|-------|
| DATABASE WS ID | IN-W186 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): COMBUSTIBLE WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 116 (3) | | | | |
| WASTE MATRIX CODE - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES | | |
| - Group | Heterogeneous Waste | TRUCON | ID 116 (3) | | |

Site **IDC's**
ID-EGG-114T-116
Assigned RF-831

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 2695 |
| Projected | 0 |
| Total | 2695 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| D008A |
| F002 |
| F001 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 25

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------|---------------------|-------|
| DATABASE WS ID | IN-W187 | | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED INORGANIC SLUDGE (TRU): EQUIPMENT | | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | Information Incomplete | | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

DC's

Site ID-EGG-102T-980

Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| F002 |
| F001 |
| F001 |
| F001 |
| D008A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| Organics | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|---|--------------------------|-------------------------|----------------------------|--------|
| DATABASE WS ID | IN-W188 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CEMENTED SLUDGES (TRU): BUILDING 776 PROCESS SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 211 | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | INORGANIC WASTE WATER TREA | |
| | - Group | Solidified Organic Waste | | TRUCON | ID 211 |

Site **IDC's**
 Site ID-EGG-112T-976
 Assigned RF-801

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| F001 |
| F002 |
| F003 |
| F003 |
| F003 |
| F003 |
| P015 |
| D002B |
| F001 |
| D028 |
| D022 |
| D009A |
| D008A |
| D007A |
| D006A |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 19

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|---|---------------------|-------------------------|-----------------------|-------|
| DATABASE WS ID | IN-W189 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | BENELEX, PLEXIGLASS (TRU): BENELEX AND PLEXIGLASS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 221 | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | BENELEX AND PLEXIGLAS | |
| | - Group | Heterogeneous Waste | TRUCON | ID 221 | |

Site ID-EGG-109T-464
Assigned RF-302

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 6 |
| Projected | 0 |
| Total | 6 |

EPA CODE(s)

| |
|-------|
| D008C |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1.92 | 1.92 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 7.69 | 7.69 | 0.00 |
| | Other Materials | 86.54 | 86.54 | 0.00 |
| Organics | Celulosics | 40.38 | 40.38 | 0.00 |
| | Rubber | | | |
| | Plastics | 296.15 | 296.15 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|-------------------------|--------------|--------------|-------|
| DATABASE WS ID | IN-W197 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): MOIST PAPER AND RAGS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 216 | | | | |
| WASTE MATRIX CODE - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES | | |
| - Group | Heterogeneous Waste | TRUCON | ID 216 | | |

Site **IDC's**
 ID-EGG-114T-336
 Assigned RF-832

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 778 |
| Projected | 0 |
| Total | 778 |

EPA CODE(s)

| |
|-------|
| F001 |
| D008A |
| D002B |
| D008C |
| F001 |
| F001 |
| F001 |
| F001 |
| F002 |
| F003 |
| F003 |
| D022 |
| F005A |
| D001C |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 3.53 | 0.60 | 0.00 |
| Organics | Celulosics | 475.08 | 115.58 | 0.00 |
| | Rubber | 40.38 | 16.75 | 0.00 |
| | Plastics | 71.26 | 35.18 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|-------------------|-------------------------|--------------|-------|
| DATABASE WS ID | IN-W198 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): PLASTICS, TEFLON, WASH AND PVC | | | | |
| NO MIGRATION VARIANCE PETITION | ID 216 | | | | |
| WASTE MATRIX CODE | - Site | 5310 | WIPP PART B APPLICATION | COMBUSTIBLES | |
| | - Group | Combustible Waste | TRUCON | ID 216 | |

| | |
|----------|-----------------|
| Site | ID-EGG-114T-337 |
| Assigned | RF-833 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 170 |
| Projected | 0 |
| Total | 170 |

EPA CODE(s)

| |
|-------|
| D008C |
| F005A |
| F005A |
| F003 |
| F003 |
| F001 |
| F002 |
| F003 |
| D008A |
| F001 |
| F001 |
| F001 |
| D029 |
| D022 |
| F001 |
| F003 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 0.85 | 0.44 | 0.00 |
| Organics | Celulosics | 1.70 | 0.14 | 0.00 |
| | Rubber | 42.51 | 13.93 | 0.00 |
| | Plastics | 510.09 | 122.52 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|---|-------------------------|------------------------------|--------------|-------|
| DATABASE WS ID | IN-W199 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): WASHABLES, RUBBER, PLASTICS | | | | |
| NO MIGRATION VARIANCE PETITION | ID NYD | | | | |
| WASTE MATRIX CODE - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES ((UNSPECIFIED)) | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

| | |
|----------|-----------------|
| Site | ID-EGG-114T-460 |
| Assigned | RF-833 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

| |
|------|
| F001 |
| F001 |
| F001 |
| F002 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 0.85 | 0.44 | 0.00 |
| Organics | Celulosics | 1.70 | 0.14 | 0.00 |
| | Rubber | 42.51 | 13.93 | 0.00 |
| | Plastics | 510.09 | 122.52 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--------------------------|-------------------|-------------------------|--------------|-------|
| DATABASE WS ID | IN-W202 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): WOOD | | | | |
| NO MIGRATION VARIANCE PETITION | ID 216 | | | | |
| WASTE MATRIX CODE | - Site | 5320 | WIPP PART B APPLICATION | COMBUSTIBLES | |
| | - Group | Combustible Waste | TRUCON | ID 216 | |

| | |
|----------|-----------------|
| Site | ID-EGG-114T-970 |
| Assigned | RF-831 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 110 |
| Projected | 0 |
| Total | 110 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| D008A |
| F001 |
| F003 |
| F002 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--|---------------------|-------------------------|----------------------------|-------|
| DATABASE WS ID | IN-W203 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): COMBUSTIBLE EQUIPMENT BOXES OR FLOOR SWEEPING AND RUST | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES (UNSPECIFIED) | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

| | |
|----------|-----------------|
| Site | ID-EGG-114T-826 |
| Assigned | MD-827 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 80 |
| Projected | 0 |
| Total | 80 |

EPA CODE(s)

| |
|-------|
| D009D |
| D009A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.32 | 0.24 | 0.00 |
| | Other Materials | 17.31 | 17.31 | 0.00 |
| Organics | Celulosics | 918.75 | 63.03 | 0.00 |
| | Rubber | 212.02 | 19.18 | 0.00 |
| | Plastics | 1060.10 | 191.83 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---|-------------------------|----------------------------|--------------|-------|
| DATABASE WS ID | IN-W204 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): COMBUSTIBLE EQUIPMENT DRUMS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES (UNSPECIFIED) | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **IDC's**
 ID-EGG-114T-827
 Assigned MD-827

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)

| |
|-------|
| D009A |
| D009D |
| D008A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.32 | 0.24 | 0.00 |
| | Other Materials | 17.31 | 17.31 | 0.00 |
| Organics | Celulosics | 918.75 | 63.03 | 0.00 |
| | Rubber | 212.02 | 19.18 | 0.00 |
| | Plastics | 1060.10 | 191.83 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|--------------|--------------|-------|
| DATABASE WS ID | IN-W205 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | COMBUSTIBLES (TRU): LOW SPECIFIC ACTIVITY PLASTICS, PAPER ETC. | | | | |
| NO MIGRATION VARIANCE PETITION | ID 216 | | | | |
| WASTE MATRIX CODE - Site | 5300 | WIPP PART B APPLICATION | COMBUSTIBLES | | |
| - Group | Combustible Waste | TRUCON | ID 216 | | |

| | |
|----------|-----------------|
| Site | ID-EGG-114T-900 |
| Assigned | RF-833 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| F001 |
| F001 |
| F002 |
| F003 |
| D008A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 0.85 | 0.44 | 0.00 |
| Organics | Celulosics | 1.70 | 0.14 | 0.00 |
| | Rubber | 42.51 | 13.93 | 0.00 |
| | Plastics | 510.09 | 122.52 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|-----------------------|--------------|-------|
| DATABASE WS ID | IN-W206 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | FILTERS (TRU): CERTIFIED TRU HEPA FILTER WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 119 (3) | | | | |
| WASTE MATRIX CODE - Site | 5410 | WIPP PART B APPLICATION | FILTERS (UNSPECIFIED) | | |
| - Group | Filter Waste | TRUCON | ID 119 (3) | | |

IDC's
 Site ID-EGG-118T-119
 Assigned RF-490

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 383 |
| Projected | 0 |
| Total | 383 |

EPA CODE(s)

| |
|-------|
| F001 |
| D001C |
| F001 |
| F002 |
| F001 |
| D002B |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 429.82 | 429.82 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | 8.77 | 8.77 | 0.00 |
| | Organic Matrix | | | |
| Soils | Inorganic Matrix | | | |
| | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 25

WASTE STREAM PROFILES

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| | | | | | |
|--------------------------------|---|--------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W207 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | FILTERS (TRU): FULFLO INCINERATOR FILTERS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5410 | WIPP PART B APPLICATION | FILTERS (UNSPECIFIED) | |
| | - Group | Filter Waste | TRUCON | Information Incomplete | |

Site ID-EGG-118T-328
Assigned RF-335

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

| |
|-------|
| F002 |
| F001 |
| F001 |
| F001 |
| D002B |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 500.00 | 168.27 | 48.08 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|---|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W214 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | FILTERS (TRU): GLASS FILTERS AND FIBERGLASS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5410 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Filter Waste | TRUCON | Information Incomplete | | |

DC's

Site ID-EGG-118T-813

Assigned RF-438

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

| |
|-------|
| D001C |
| D009D |
| D009A |
| D002B |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 293.27 | 194.71 | 24.04 |
| Organics | Celulosics | 9.62 | 4.81 | 1.20 |
| | Rubber | | | |
| Solidified | Plastics | | | |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---|----------------------------|-------------------------|----------------------------|--------|
| DATABASE WS ID | IN-W216 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED INORGANIC SLUDGE (TRU): FIRST STAGE SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 211 | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | INORGANIC WASTE WATER TREA | |
| | - Group | Solidified Inorganic Waste | | TRUCON | ID 211 |

| | |
|----------|-----------------|
| Site | ID-EGG-102T-001 |
| Assigned | RF-800 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 2531 |
| Projected | 0 |
| Total | 2531 |

EPA CODE(s)

| |
|-------|
| D002B |
| P015 |
| F003 |
| F003 |
| F003 |
| F002 |
| F001 |
| F001 |
| F001 |
| F001 |
| D022 |
| D011A |
| D009A |
| D008A |
| D007A |
| D006A |
| D005A |
| D028 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|----------------------------|-------------------------|----------------------------|-------|
| DATABASE WS ID | IN-W218 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED INORGANIC SLUDGE (TRU): BLDG 374 DRY SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 211 | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | INORGANIC WASTE WATER TREA | |
| | - Group | Solidified Inorganic Waste | | TRUCON ID 211 | |

Site ID-EGG-102T-007
Assigned RF-803

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 459 |
| Projected | 0 |
| Total | 459 |

EPA CODE(s)

| |
|-------|
| F003 |
| F001 |
| F001 |
| F002 |
| F001 |
| F003 |
| F003 |
| F005A |
| F001 |
| F001 |
| D028 |
| D009A |
| D008A |
| D007A |
| D006A |
| D002B |
| P015 |
| D022 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 778.85 | 663.46 | 451.92 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|---|----------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W219 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED INORGANIC SLUDGE (TRU): SOLIDIFIED GRINDING SLUDGE, ETC. | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-102T-030

Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 10 |
| Projected | 0 |
| Total | 10 |

EPA CODE(s)

| |
|------|
| F002 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|--|--------------------------|--------------------------------|----------------------------|------------|
| DATABASE WS ID | IN-W220 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED ORGANIC SLUDGE (TRU): RESEARCH GENERATED WASTE NONCOMPACTIBLE SOLID | | | | |
| NO MIGRATION VARIANCE PETITION | ID 111 (3) | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | INORGANIC WASTE WATER TREA | |
| | - Group | Solidified Organic Waste | | TRUCON | ID 111 (3) |

IDC's

Site ID-EGG-102T-111

Assigned RF-801

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 554 |
| Projected | 0 |
| Total | 554 |

EPA CODE(s)

| |
|-------|
| D002B |
| P015 |
| F005A |
| F003 |
| F003 |
| F002 |
| F001 |
| F003 |
| F001 |
| F003 |
| F001 |
| D009A |
| D008A |
| D007A |
| D006A |
| D005A |
| D004A |
| F001 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 25

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--|----------------------------|-------------------------|---------------------------------|-------|
| DATABASE WS ID | IN-W221 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED INORGANIC SLUDGE (TRU): SOLID LAB WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 113 (3) | | | | |
| WASTE MATRIX CODE | - Site | 3113 | WIPP PART B APPLICATION | SOLIDIFIED LIQUID (UNSPECIFIED) | |
| | - Group | Solidified Inorganic Waste | TRUCON | ID 113 (3) | |

| | |
|----------|-----------------|
| Site | ID-EGG-102T-113 |
| Assigned | RF-800 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 14 |
| Projected | 0 |
| Total | 14 |

EPA CODE(s)

| |
|-------|
| F003 |
| D002B |
| F003 |
| F003 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W222 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED INORGANIC SLUDGE (TRU): CEMENTED SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3150 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

Site ID-EGG-102T-292
Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 276 |
| Projected | 0 |
| Total | 276 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| D002B |
| D006A |
| D008A |
| F003 |
| F002 |
| F003 |
| F003 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---|---------------------|-------------------------|-----------------------|-------|
| DATABASE WS ID | IN-W225 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | BENELEX, PLEXIGLASS (TRU): BENELEX AND PLEXIGLASS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 221 | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | BENELEX AND PLEXIGLAS | |
| | - Group | Heterogeneous Waste | TRUCON | ID 221 | |

Site ID-EGG-109T-302

Assigned RF-302

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 22 |
| Projected | 0 |
| Total | 22 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| F001 |
| D008C |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1.92 | 1.92 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 7.69 | 7.69 | 0.00 |
| | Other Materials | 86.54 | 86.54 | 0.00 |
| Organics | Celulosics | 40.38 | 40.38 | 0.00 |
| | Rubber | | | |
| Solidified | Plastics | 296.15 | 296.15 | 0.00 |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--|----------------------------|-------------------------|----------------------------|--------|
| DATABASE WS ID | IN-W228 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCEMENTED INORGANIC SLUDGE (TRU): SECOND STAGE SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 211 | | | | |
| WASTE MATRIX CODE | - Site | 3121 | WIPP PART B APPLICATION | INORGANIC WASTE WATER TREA | |
| | - Group | Solidified Inorganic Waste | | TRUCON | ID 211 |

Site ID-EGG-102T-002

Assigned RF-807

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1297 |
| Projected | 0 |
| Total | 1297 |

EPA CODE(s)

| |
|-------|
| D006A |
| F003 |
| F003 |
| F003 |
| F002 |
| F001 |
| F001 |
| F001 |
| P015 |
| D028 |
| D003E |
| D002B |
| F001 |
| D005A |
| D022 |
| D007A |
| D008A |
| D009A |
| D009D |
| D011A |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---|-------------------------|------------------------------|--------------|-------|
| DATABASE WS ID | IN-W230 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CONCRETE - BRICK (TRU): INORGANIC SOLID WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 122 (3) | | | | |
| WASTE MATRIX CODE - Site | 5200 | WIPP PART B APPLICATION | FIREBRICK AND CERAMIC CRUCIB | | |
| - Group | Inorganic Non-metal Waste | TRUCON | ID 122 (3) | | |

Site ID-EGG-115T-122
Assigned RF-370

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 18 |
| Projected | 0 |
| Total | 18 |

EPA CODE(s)

| |
|------|
| F001 |
| F001 |
| F002 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 528.85 | 528.85 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 25

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|---------------------------|-------------------------|---------------------|--------------|-------|
| DATABASE WS ID | IN-W240 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLASS (TRU): GLASS WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 118 (3) | | | | |
| WASTE MATRIX CODE - Site | 5220 | WIPP PART B APPLICATION | GLASS (UNSPECIFIED) | | |
| - Group | Inorganic Non-metal Waste | TRUCON | ID 118 (3) | | |

IDC's
 Site ID-EGG-119T-118
 Assigned RF-440

WASTE VOLUMES (cu. m.)

| | |
|--------------|------------|
| Retrievable | 169 |
| Projected | 0 |
| Total | 169 |

EPA CODE(s)

| |
|-------|
| F001 |
| D002B |
| D008A |
| D009A |
| F001 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| | Organics | | | |
| | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 25

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|---------------------------|-------------------------|--------|--------------|-------|
| DATABASE WS ID | IN-W243 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLASS (TRU): GLASS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 218 | | | | |
| WASTE MATRIX CODE - Site | 5220 | WIPP PART B APPLICATION | GLASS | | |
| - Group | Inorganic Non-metal Waste | TRUCON | ID 218 | | |

Site **IDC's**
 ID-EGG-119T-440
 Assigned RF-440

WASTE VOLUMES (cu. m.)

| | |
|--------------|------------|
| Retrievable | 248 |
| Projected | 0 |
| Total | 248 |

EPA CODE(s)

| |
|-------|
| F001 |
| D002B |
| D008A |
| D008C |
| F001 |
| F001 |
| F002 |
| F003 |
| F005 |
| D029 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| | Organics | | | |
| | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|-------------------------------------|-------------------------|---------------------|--------------|-------|
| DATABASE WS ID | IN-W245 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLASS (TRU): UNLEACHED RASHIG RINGS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 225 | | | | |
| WASTE MATRIX CODE - Site | 8900 | WIPP PART B APPLICATION | GLASS (OIL RESIDUE) | | |
| - Group | Inorganic Non-metal Waste | TRUCON | ID 225 | | |

Site ID-EGG-119T-441
Assigned RF-440

WASTE VOLUMES (cu. m.)

| | |
|--------------|------------|
| Retrievable | 169 |
| Projected | 0 |
| Total | 169 |

EPA CODE(s)

| |
|-------|
| F001 |
| D001C |
| D002B |
| D008A |
| D008C |
| F001 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| | Organics | | | |
| | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 13, 16, 17, 18

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|-----------------------------------|---------------------------|-------------------------|--------------|--------|
| DATABASE WS ID | IN-W247 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLASS (TRU): LEACHED RASHIG RINGS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 218 | | | | |
| WASTE MATRIX CODE | - Site | 8900 | WIPP PART B APPLICATION | GLASS | |
| | - Group | Inorganic Non-metal Waste | | TRUCON | ID 218 |

Site ID-EGG-119T-442
Assigned RF-440

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 199 |
| Projected | 0 |
| Total | 199 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| D008A |
| D028 |
| F001 |
| D002B |
| F002 |
| F003 |
| F003 |
| F005A |
| F005A |
| F001 |
| D029 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| Organics | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 13, 16, 18

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W249 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLASS (TRU): GLASS, FLASKS, SAMPLE VIALS, ETC. | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 8900 | WIPP PART B APPLICATION | GLASS (UNSPECIFIED) | | |
| - Group | Inorganic Non-metal Waste | TRUCON | Information Incomplete | | |

IDC's
 Site ID-EGG-119T-810
 Assigned RF-440

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 3 |
| Projected | 0 |
| Total | 3 |

EPA CODE(s)

| |
|-------|
| D009D |
| D009A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| | Organics | | | |
| | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 13, 16, 17, 18, 21, 22

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--------------------------------------|-------------------------|-----------------------------|--------------|-------|
| DATABASE WS ID | IN-W250 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLOVEBOX GLOVES (TRU): LEADED RUBBER | | | | |
| NO MIGRATION VARIANCE PETITION | ID 123 (3) | | | | |
| WASTE MATRIX CODE - Site | 5311 | WIPP PART B APPLICATION | LEADED RUBBER (UNSPECIFIED) | | |
| - Group | Combustible Waste | TRUCON | ID 123 (3) | | |

Site ID-EGG-120T-123
Assigned RF-339

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 64 |
| Projected | 0 |
| Total | 64 |

EPA CODE(s)

D008C

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 504.81 | 254.81 | 0.00 |
| | Other Materials | 144.23 | 28.85 | 0.00 |
| Organics | Celulosics | 10.10 | 5.77 | 0.00 |
| | Rubber | 464.42 | 265.38 | 0.00 |
| | Plastics | 30.29 | 17.31 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|-------------------|-------------------------|---------------|-------|
| DATABASE WS ID | IN-W252 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLOVEBOX GLOVES (TRU): LEADED RUBBER GLOVES AND APRONS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 223 | | | | |
| WASTE MATRIX CODE | - Site | 5311 | WIPP PART B APPLICATION | LEADED RUBBER | |
| | - Group | Combustible Waste | TRUCON | ID 223 | |

| | |
|----------|-----------------|
| Site | ID-EGG-120T-339 |
| Assigned | RF-339 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 160 |
| Projected | 0 |
| Total | 160 |

EPA CODE(s)

| |
|-------|
| D022 |
| F001 |
| D008C |
| D028 |
| D029 |
| F001 |
| F001 |
| F001 |
| F005A |
| F001 |
| F005A |
| F003 |
| F003 |
| F003 |
| F002 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 504.81 | 254.81 | 0.00 |
| | Other Materials | 144.23 | 28.85 | 0.00 |
| Organics | Celulosics | 10.10 | 5.77 | 0.00 |
| | Rubber | 464.42 | 265.38 | 0.00 |
| | Plastics | 30.29 | 17.31 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

29-Jun-94

| | | | | | |
|--------------------------------|--|-------------------------|---------------|--------------|-------|
| DATABASE WS ID | IN-W254 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLOVEBOX GLOVES (TRU): LEADED RUBBER GLOVES AND APRONS | | | | |
| NO MIGRATION VARIANCE PETITION | ID 223 | | | | |
| WASTE MATRIX CODE - Site | 5311 | WIPP PART B APPLICATION | LEADED RUBBER | | |
| - Group | Combustible Waste | TRUCON | ID 223 | | |

IDC's
 Site ID-EGG-120T-463
 Assigned RF-339

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 10 |
| Projected | 0 |
| Total | 10 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| F001 |
| F002 |
| D008C |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 504.81 | 254.81 | 0.00 |
| | Other Materials | 144.23 | 28.85 | 0.00 |
| Organics | Celulosics | 10.10 | 5.77 | 0.00 |
| | Rubber | 464.42 | 265.38 | 0.00 |
| | Plastics | 30.29 | 17.31 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 16, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|---|-------------------|--------------------------------|-----------------------------|-------|
| DATABASE WS ID | IN-W256 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | GLOVEBOX GLOVES (TRU): DRY BOX GLOVES AND O-RINGS | | | | |
| NO MIGRATION VARIANCE PETITION | ID NYD | | | | |
| WASTE MATRIX CODE | - Site | 5311 | WIPP PART B APPLICATION | LEADED RUBBER (UNSPECIFIED) | |
| | - Group | Combustible Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-120T-802

Assigned RF-339

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 26 |
| Projected | 0 |
| Total | 26 |

EPA CODE(s)

D008C

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 504.81 | 254.81 | 0.00 |
| | Other Materials | 144.23 | 28.85 | 0.00 |
| Organics | Celulosics | 10.10 | 5.77 | 0.00 |
| | Rubber | 464.42 | 265.38 | 0.00 |
| | Plastics | 30.29 | 17.31 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 19,

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|---|----------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W257 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | RADIOACTIVE SOURCES (TRU): SOLIDIFIED FUEL SLUDGE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

DC's

Site ID-EGG-144T-151

Assigned MD-827

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

D008C

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.32 | 0.24 | 0.00 |
| | Other Materials | 17.31 | 17.31 | 0.00 |
| Organics | Celulosics | 918.75 | 63.03 | 0.00 |
| | Rubber | 212.02 | 19.18 | 0.00 |
| | Plastics | 1060.10 | 191.83 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 2, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

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| | | | | | |
|---------------------------------------|---|---------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W259 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | RADIOACTIVE SOURCES (TRU): ALPHA HOT CELL WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-144T-104

Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 59 |
| Projected | 0 |
| Total | 59 |

EPA CODE(s)

D008A

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W260 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | RADIOACTIVE SOURCES (TRU): SOLID BINARY SCRAP POWDER, ETC. | | | | |
| NO MIGRATION VARIANCE PETITION | ID NYD | | | | |
| WASTE MATRIX CODE - Site | 3100 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Unspecified Metal Waste | TRUCON | Information Incomplete | | |

Site **IDC's**
ID-EGG-144T-040
Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 36 |
| Projected | 0 |
| Total | 36 |

EPA CODE(s)

| |
|-------|
| D008C |
| D008A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Celulosics | 45.27 | 7.43 | 0.00 |
| Organics | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

29-Jun-94

| | | | | | |
|--------------------------------|---|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W263 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | PARTICULATE WASTES (TRU): CONTAMINATED SOIL | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 4200 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Soil | TRUCON | Information Incomplete | | |

Site ID-EGG-141T-842
Assigned MD-842

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 38 |
| Projected | 0 |
| Total | 38 |

EPA CODE(s)

| |
|-------|
| D010A |
| D002B |
| D003E |
| D006A |
| D007A |
| D009A |
| D011A |
| D008A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | 0.57 | 0.57 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.15 | 0.08 | 0.00 |
| | Other Materials | 33.91 | 5.70 | 0.00 |
| | Organics | 0.71 | 0.71 | 0.00 |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Packaging Materials | Soil | 671.46 | 564.57 | 457.45 |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|---|---------------------|--------------------------------|------------------------|--------|
| DATABASE WS ID | IN-W265 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | PARTICULATE WASTES (TRU): BLACKTOP, CONCRETE, DIRT AND SAND | | | | |
| NO MIGRATION VARIANCE PETITION | ID 121 | | | | |
| WASTE MATRIX CODE | - Site | 5430 | WIPP PART B APPLICATION | BENELEX AND PLEXIGLASS | |
| | - Group | Heterogeneous Waste | | TRUCON | ID 121 |

Site ID-EGG-141T-374
Assigned RF-374

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 53 |
| Projected | 0 |
| Total | 53 |

EPA CODE(s)

| |
|------|
| F001 |
| F004 |
| F001 |
| F001 |
| F001 |
| F001 |
| F001 |
| F003 |
| F003 |
| F003 |
| F002 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 3072.12 | 584.13 | 0.00 |
| Organics | Celulosics | 12.02 | 12.02 | 0.00 |
| | Rubber | | | |
| | Plastics | 12.02 | 12.02 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | 144.23 | 64.90 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES

(CONTINUED)

CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--------------------------------|----------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | IN-W267 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | PARTICULATE WASTES (TRU): GRIT | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3112 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

IDC's

Site ID-EGG-141T-372

Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 7 |
| Projected | 0 |
| Total | 7 |

EPA CODE(s)

P015

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W269 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | PARTICULATE WASTES (TRU): LABORATORY WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | Site | 5000 | WIPP PART B APPLICATION | Information Incomplete | |
| | Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-141T-150

Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 26 |
| Projected | 0 |
| Total | 26 |

EPA CODE(s)

| |
|-------|
| D002B |
| D008A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| Organics | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|--|---------------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W271 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): CONTAMINATED MERCURY OR GRAPHITE CRUCIBLES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3190 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

| | |
|----------|-----------------|
| Site | ID-EGG-137T-814 |
| Assigned | MD-824 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| D009D |
| D009B |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1528.85 | 415.63 | 2.16 |
| | Aluminum-Based Metals/Alloys | 38.22 | 17.50 | 0.00 |
| | Other Metals | 46.63 | 4.81 | 0.00 |
| | Other Materials | 812.50 | 48.08 | 0.00 |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | 4.81 | 4.81 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 19, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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29-Jun-94

| | | | | | |
|--------------------------------|---|----------------|-------------------------|--------------|--------|
| DATABASE WS ID | IN-W272 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): COARSE GRAPHITE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 115 | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | GRAPHITE | |
| | - Group | Graphite Waste | | TRUCON | ID 115 |

Site ID-EGG-137T-312
Assigned RF-312

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)

| |
|------|
| F002 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 336.54 | 31.25 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9,16

WASTE STREAM PROFILES (CONTINUED)

CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W275 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): GRAPHITE CORES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5000 | WIPP PART B APPLICATION | GRAPHITE (UNSPECIFIED) | | |
| - Group | Graphite Waste | TRUCON | Information Incomplete | | |

DC's

Site ID-EGG-137T-301

Assigned RF-300

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 6 |
| Projected | 0 |
| Total | 6 |

EPA CODE(s)

F001

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 798.12 | 65.73 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9, 16, 17, 21, 22

WASTE STREAM PROFILES

(CONTINUED)

CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--|-----------------|--------------------------------|---------------------|--------|
| DATABASE WS ID | IN-W276 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): GRAPHITE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 215 | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | GRAPHITE | |
| | - Group | Graphite Waste | | TRUCON | ID 215 |

DC's

Site ID-EGG-137T-300

Assigned RF-300

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 392 |
| Projected | 0 |
| Total | 392 |

EPA CODE(s)

| |
|-------|
| F001 |
| D022 |
| D028 |
| F001 |
| F001 |
| F002 |
| F003 |
| F005A |
| F005A |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 798.12 | 65.73 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 6, 9, 16

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W278 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | MISCELLANEOUS (PAPER, METAL, ETC.) (TRU): LOW SPECIFIC ACTIVITY METAL, GLASS, ETC. | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-134T-950

Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 14 |
| Projected | 0 |
| Total | 14 |

EPA CODE(s)

| |
|-------|
| D008C |
| D008A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| Organics | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

29-Jun-94

| | | | | | |
|---------------------------------------|---|-------------------------|--------------------------------|---------------------|------------------------|
| DATABASE WS ID | IN-W280 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | METALS (TRU): METAL, EQUIPMENT, PIPES, VALVES, ETC. | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5100 | WIPP PART B APPLICATION | METAL (UNSPECIFIED) | |
| | - Group | Unspecified Metal Waste | | TRUCON | Information Incomplete |

DC's

Site ID-EGG-132T-803

Assigned MD-824

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 35 |
| Projected | 0 |
| Total | 35 |

EPA CODE(s)

| |
|-------|
| D009A |
| D009D |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|---------------------------------|------------------------------|------------|------------|------------|
| Inorganics | Iron-Based Metals/Alloys | 1528.85 | 415.63 | 2.16 |
| | Aluminum-Based Metals/Alloys | 38.22 | 17.50 | 0.00 |
| | Other Metals | 46.63 | 4.81 | 0.00 |
| | Other Materials | 812.50 | 48.08 | 0.00 |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | 4.81 | 4.81 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|---|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W281 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | MISCELLANEOUS (PAPER,METAL, ETC.) (TRU): NONCOMBUSTIBLE EQUIPMENT BOXES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

DC's

Site ID-EGG-134T-824

Assigned MD-824

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 371 |
| Projected | 0 |
| Total | 371 |

EPA CODE(s)

| |
|-------|
| D008A |
| D007A |
| D006A |
| D005A |
| D010A |
| D011A |
| D009A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1528.85 | 415.63 | 2.16 |
| | Aluminum-Based Metals/Alloys | 38.22 | 17.50 | 0.00 |
| | Other Metals | 46.63 | 4.81 | 0.00 |
| | Other Materials | 812.50 | 48.08 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | 4.81 | 4.81 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|---|-------------------------|---------------------|--------------|-------|
| DATABASE WS ID | IN-W283 | HANDLING | CH. | FIELD OFFICE | Idaho |
| WS NAME | MISCELLANEOUS (PAPER, METAL, ETC.) (TRU): AMERICIUM PROCESS RESIDUE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 225 | | | | |
| WASTE MATRIX CODE - Site | 5400 | WIPP PART B APPLICATION | GLASS (UNSPECIFIED) | | |
| - Group | Heterogeneous Waste | TRUCON | ID 225 | | |

| | |
|----------|-----------------|
| Site | ID-EGG-134T-241 |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(S)

| |
|-------|
| F002 |
| D008C |
| D002B |
| D001C |
| F003 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| Organics | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|---|---------------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W285 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | MISCELLANEOUS (PAPER, METAL, ETC.) (TRU): NONCOMBUSTIBLE SOLIDS | | | | |
| NO MIGRATION VARIANCE PETITION | ID NYD | | | | |
| WASTE MATRIX CODE | - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

Site **IDC's** ID-EGG-134T-201

Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 65 |
| Projected | 0 |
| Total | 65 |

EPA CODE(s)

D008C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| Organics | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---|-------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | IN-W287 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | MISCELLANEOUS (PAPER, METAL, ETC.) (TRU): CUT UP GLOVEBOXES | | | | |
| NO MIGRATION VARIANCE PETITION | ID NYD | | | | |
| WASTE MATRIX CODE | - Site | 5100 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unspecified Metal Waste | | TRUCON | Information Incomplete |

DC's

Site ID-EGG-134T-101

Assigned AE-121

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 212 |
| Projected | 0 |
| Total | 212 |

EPA CODE(s)

| |
|-------|
| D008C |
| D008A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 405.26 | 213.16 | 42.11 |
| | Aluminum-Based Metals/Alloys | 73.68 | 34.21 | 0.00 |
| | Other Metals | 44.21 | 15.79 | 0.00 |
| | Other Materials | 141.05 | 33.68 | 0.00 |
| | Organics | | | |
| | Celulosics | 115.00 | 56.84 | 0.00 |
| | Rubber | 2.42 | 0.63 | 0.00 |
| | Plastics | 24.21 | 5.68 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|---|--------------------------------|------------------------|---------------------|-------|
| DATABASE WS ID | IN-W289 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | MISCELLANEOUS (PAPER, METAL, ETC.) (TRU): DDW NONCOMBUSTIBLE SOLIDS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

DC's

Site ID-EGG-134T-121

Assigned MD-824

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 25 |
| Projected | 0 |
| Total | 25 |

EPA CODE(s)

| |
|-------|
| F002 |
| D004A |
| D005A |
| D006A |
| D007A |
| D008A |
| F001 |
| P015 |
| D009A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1528.85 | 415.63 | 2.16 |
| | Aluminum-Based Metals/Alloys | 38.22 | 17.50 | 0.00 |
| | Other Metals | 46.63 | 4.81 | 0.00 |
| | Other Materials | 812.50 | 48.08 | 0.00 |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | 4.81 | 4.81 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 13, 16, 17, 19, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W291 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | MISCELLANEOUS (PAPER, METAL, ETC.) (TRU):GENERAL PLANT WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

Site ID-EGG-134T-100
Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|--------------------|-----|
| Retrievable | 770 |
| Projected | 0 |
| Total | 770 |

EPA CODE(s)

| |
|-------|
| F003 |
| D001C |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| Organics | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|-------------------------|--------------------------------|---------------------|--------|
| DATABASE WS ID | IN-W294 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | METALS (TRU): LEACHED NON SPECIAL SOURCE METAL | | | | |
| NO MIGRATION VARIANCE PETITION | ID 217 | | | | |
| WASTE MATRIX CODE | - Site | 5100 | WIPP PART B APPLICATION | METAL | |
| | - Group | Unspecified Metal Waste | | TRUCON | ID 217 |

| | |
|-----------------|-----------------|
| IDC's | |
| Site | ID-EGG-132T-481 |
| Assigned | RF-480 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 443 |
| Projected | 0 |
| Total | 443 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| D008A |
| D008C |
| F001 |
| F001 |
| F002 |
| F005 |
| D022 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | 45.27 | 7.43 | 0.00 |
| Solidified | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| | Organic Matrix | | | |
| Soils | Inorganic Matrix | | | |
| | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--|-------------------------|--------------------------------|---------------------|--------|
| DATABASE WS ID | IN-W296 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | METALS (TRU): NON SPECIAL SOURCE METAL | | | | |
| NO MIGRATION VARIANCE PETITION | ID 217 | | | | |
| WASTE MATRIX CODE | - Site | 5100 | WIPP PART B APPLICATION | METAL | |
| | - Group | Unspecified Metal Waste | | TRUCON | ID 217 |

| | |
|-----------------|-----------------|
| DC's | |
| Site | ID-EGG-132T-480 |
| Assigned | RF-480 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 5243 |
| Projected | 0 |
| Total | 5243 |

EPA CODE(s)

| |
|-------|
| F001 |
| F003 |
| D008A |
| D008C |
| D028 |
| D029 |
| F001 |
| F001 |
| F002 |
| F005A |
| F003 |
| F003 |
| F003 |
| F005A |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | 45.27 | 7.43 | 0.00 |
| Solidified | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| | Organic Matrix | | | |
| Soils | Inorganic Matrix | | | |
| | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|-------------------------|-------------------------|--------|--------------|-------|
| DATABASE WS ID | IN-W298 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | METALS (TRU): TANTALUM | | | | |
| NO MIGRATION VARIANCE PETITION | ID 217 | | | | |
| WASTE MATRIX CODE - Site | 5100 | WIPP PART B APPLICATION | METAL | | |
| - Group | Unspecified Metal Waste | | TRUCON | ID 217 | |

Site **IDC's**
 ID-EGG-132T-320
 Assigned RF-320

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 75 |
| Projected | 0 |
| Total | 75 |

EPA CODE(s)

| |
|-------|
| F001 |
| D008A |
| F001 |
| F001 |
| F002 |
| D008C |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 317.31 | 83.65 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 1586.54 | 195.19 | 0.00 |
| | Other Materials | 19.23 | 19.23 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---------------------------|-------------------------|---------------------|--------------|-------|
| DATABASE WS ID | IN-W300 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | METALS (TRU): METAL WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | ID 117 (3) | | | | |
| WASTE MATRIX CODE - Site | 5100 | WIPP PART B APPLICATION | METAL (UNSPECIFIED) | | |
| - Group | Unspecified Metal Waste | | TRUCON | ID 117 (3) | |

Site **IDC's**
ID-EGG-132T-117
Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1513 |
| Projected | 0 |
| Total | 1513 |

EPA CODE(s)

| |
|-------|
| F001 |
| F001 |
| D008A |
| D008C |
| P015 |
| F002 |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Celulosics | 45.27 | 7.43 | 0.00 |
| Organics | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 25

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|---|---------------------|-------------------------|---------------------|------------------------|
| DATABASE WS ID | IN-W302 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | METALS (TRU): NONCOMPRESSIBLE, NONCOMBUSTIBLE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | METAL (UNSPECIFIED) | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

IDC's
 Site ID-EGG-132T-020
 Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 106 |
| Projected | 0 |
| Total | 106 |

EPA CODE(s)

| |
|-------|
| F002 |
| F001 |
| D002B |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|------------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | Celulosics | 184.81 | 80.91 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 13, 16, 17, 19, 21, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|-----------------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W306.1 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCATEGORIZED (TRU): PRE 73 DRUMS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

| | |
|----------|------------------|
| DC's | |
| Site | ID-EGG-287T-9999 |
| Assigned | RF-806.2 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1906 |
| Projected | 0 |
| Total | 1906 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 18, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|-----------------------------------|-------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W306.2 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCATEGORIZED (TRU): PRE 73 DRUMS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unspecified Metal Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-287T-9999

Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 3119 |
| Projected | 0 |
| Total | 3119 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | 45.27 | 7.43 | 0.00 |
| Organics | Celulosics | 67.57 | 15.09 | 0.00 |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 18, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|-----------------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W306.3 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCATEGORIZED (TRU): PRE 73 DRUMS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

IDC's
 Site ID-EGG-287T-9999
 Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 3465 |
| Projected | 0 |
| Total | 3465 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| Organics | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 18, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|-----------------------------------|--------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W306.4 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCATEGORIZED (TRU): PRE 73 DRUMS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Filter Waste | TRUCON | Information Incomplete | |

IDC's
 Site ID-EGG-287T-9999
 Assigned RF-335

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1040 |
| Projected | 0 |
| Total | 1040 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 500.00 | 168.27 | 48.08 |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 18, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W308 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNCATEGORIZED (TRU): NOT RECORDED - UNKNOWN | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Unknown Waste | TRUCON | Information Incomplete | | |

Site ID-EGG-287T-000
Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 4140 |
| Projected | 0 |
| Total | 4140 |

EPA CODE(s)

UNK

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | |
|---------------------|------------------|--------|--|
| Inorganics | Iron-Based | | |
| | Metals/Alloys | | |
| | Aluminum-Based | | |
| | Metals/Alloys | | |
| | Other Metals | | |
| | Other Materials | | |
| Organics | Celulosics | | |
| | Rubber | | |
| | Plastics | | |
| Solidified | Organic Matrix | | |
| | Inorganic Matrix | | |
| Soils | Soil | | |
| Packaging Materials | Steel | 141.83 | |
| | Plastic | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--|-----------------|--------------------------------|------------------------------|-------|
| DATABASE WS ID | IN-W311 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | SALTS (TRU): MOLTEN SALTS - 30% UNPULVERIZED | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3140 | WIPP PART B APPLICATION | PYROCHEMICAL SALT (UNSPECIFI | |
| | - Group | Salt Waste | TRUCON | Information Incomplete | |

Site ID-EGG-146T-409
Assigned RF-429

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 7 |
| Projected | 0 |
| Total | 7 |

EPA CODE(s)

| |
|------|
| F001 |
| D028 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------|--------|--------|-------|
| Inorganics | Iron-Based | 14.42 | 12.02 | 0.48 |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | 567.30 | 216.30 | 48.10 |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Organic Matrix | | | |
| Solidified | Inorganic Matrix | | | |
| | | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--------------------------------------|-----------------|--------------------------------|------------------------------|-------|
| DATABASE WS ID | IN-W312 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | SALTS (TRU): PYROCHEMICAL SALT WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3140 | WIPP PART B APPLICATION | PYROCHEMICAL SALT (UNSPECIFI | |
| | - Group | Salt Waste | TRUCON | Information Incomplete | |

Site ID-EGG-146T-124
Assigned RF-411

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 3 |
| Projected | 0 |
| Total | 3 |

EPA CODE(s)
D003D

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 101.57 | 101.57 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|-----------------|--------------------------------|------------------------------|-------|
| DATABASE WS ID | IN-W314 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | SALTS (TRU): DIRECT OXIDE REDUCTION SALT | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3140 | WIPP PART B APPLICATION | PYROCHEMICAL SALT (UNSPECIFI | |
| | - Group | Salt Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-146T-414

Assigned RF-454

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

F001

| WASTE PARAMETERS (kg/m ³) | | Max | Avg | Min |
|---------------------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 14.42 | 12.02 | 4.81 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 584.33 | 216.35 | 46.63 |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|-------------------------------|-----------------|--------------------------------|------------------------------|-------|
| DATABASE WS ID | IN-W315 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | SALTS (TRU): EVAPORATOR SALTS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3140 | WIPP PART B APPLICATION | PYROCHEMICAL SALT (UNSPECIFI | |
| | - Group | Salt Waste | TRUCON | Information Incomplete | |

DC's

Site ID-EGG-146T-005

Assigned RF-429

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

D001C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 14.42 | 12.02 | 0.48 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 567.30 | 216.30 | 48.10 |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22

WASTE STREAM PROFILES

(CONTINUED)

CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--|--------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | IN-W317 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | RESINS (TRU): LEACHED AND CEMENTED RESIN | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Organic Waste | | TRUCON | Information Incomplete |

IDC's

Site ID-EGG-145T-432

Assigned RF-806.1

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 52 |
| Projected | 0 |
| Total | 52 |

EPA CODE(s)

| |
|-------|
| F002 |
| F001 |
| F001 |
| F001 |
| D008A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 2012.02 | 625.00 | 164.90 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 19, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|-----------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W319 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | RESINS (TRU): LEACHED RESIN | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3115 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Organic Waste | TRUCON | Information Incomplete | | |

Site ID-EGG-145T-431
Assigned RF-806.1

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)
D001C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 2012.02 | 625.00 | 164.90 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 19, 21, 22, 23,

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--|--------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W321 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | RESINS (TRU): UNLEACHED ION COLUMN RESIN | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3115 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Organic Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-145T-430

Assigned RF-806.1

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 11 |
| Projected | 0 |
| Total | 11 |

EPA CODE(s)

D001A

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 2012.02 | 625.00 | 164.90 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 19, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W323 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | RADIOACTIVE SOURCES (TRU): COMBUSTIBLE LAB WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5440 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site ID-EGG-144T-153
Assigned AE-120

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)

D008C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 63.16 | 36.84 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 10.53 | 2.63 | 0.00 |
| | | | | |
| Organics | Celulosics | 450.95 | 213.16 | 47.37 |
| | Rubber | 7.16 | 2.37 | 0.00 |
| | Plastics | 57.26 | 21.32 | 1.58 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---------------------------------|-------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W325 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU); CLASSIFIED PARTS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5300 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Combustible Waste | TRUCON | Information Incomplete | |

Site ID-EGG-288T-815
Assigned MD-827

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.32 | 0.24 | 0.00 |
| | Other Materials | 17.31 | 17.31 | 0.00 |
| Organics | Celulosics | 918.75 | 63.03 | 0.00 |
| | Rubber | 212.02 | 19.18 | 0.00 |
| | Plastics | 1060.10 | 191.83 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|--|-------------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W327 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): LOW SPECIFIC ACTIVITY < 100 nCi/g COMBUSTIBLE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5300 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Combustible Waste | TRUCON | Information Incomplete | |

Site **IDC's**
 ID-EGG-288T-847
 Assigned MD-827

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 4 |
| Projected | 0 |
| Total | 4 |

EPA CODE(s)
 UNK

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.32 | 0.24 | 0.00 |
| | Other Materials | 17.31 | 17.31 | 0.00 |
| Organics | Celulosics | 918.75 | 63.03 | 0.00 |
| | Rubber | 212.02 | 19.18 | 0.00 |
| | Plastics | 1060.10 | 191.83 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

29-Jun-94

| | | | | | |
|--------------------------------|---|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W329 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU); LOW SPECIFIC ACTIVITY < 100 nCi/g NONCOMBUSTIBLE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **DC's** ID-EGG-288T-848

Assigned MD-824

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1528.85 | 415.63 | 2.16 |
| | Aluminum-Based Metals/Alloys | 38.22 | 17.50 | 0.00 |
| | Other Metals | 46.63 | 4.81 | 0.00 |
| | Other Materials | 812.50 | 48.08 | 0.00 |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | 4.81 | 4.81 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--|-------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W330 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): PLASTIC, TYGON, MANIPULATOR BOOTS, ETC. | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5310 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Combustible Waste | TRUCON | Information Incomplete | |

Site ID-EGG-288T-801
Assigned MD-827

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 7 |
| Projected | 0 |
| Total | 7 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.32 | 0.24 | 0.00 |
| | Other Materials | 17.31 | 17.31 | 0.00 |
| Organics | Celulosics | 918.75 | 63.03 | 0.00 |
| | Rubber | 212.02 | 19.18 | 0.00 |
| | Plastics | 1060.10 | 191.83 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

CAO-94-1005, Rev. 0
June 1994

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| | | | | | |
|--------------------------------|-------------------------------------|----------------------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W332 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): SOLIDIFIED SOLUTIONS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

Site **IDC's**
 ID-EGG-288T-204
 Assigned BC-204

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)
 UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Solidified Organic Matrix | | | |
| | Inorganic Matrix | 1102.40 | 1102.40 | 0.00 |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22

WASTE STREAM PROFILES (CONTINUED)

CAO-94-1005, Rev. 0
June 1994

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| | | | | | |
|--------------------------------|-------------------------------------|---------------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W334 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): PAPER, METALS, GLASS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

Site **IDC's**
 ID-EGG-288T-203
 Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 6 |
| Projected | 0 |
| Total | 6 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|------------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | Celulosics | 184.81 | 80.91 |
| Rubber | | 17.88 | 7.36 | 0.00 |
| Plastics | | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|-----------------------------------|-------------------------|----------------------------|--------------|-------|
| DATABASE WS ID | IN-W336 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): COMBUSTIBLE SOLIDS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5300 | WIPP PART B APPLICATION | COMBUSTIBLES (UNSPECIFIED) | | |
| - Group | Combustible Waste | TRUCON | Information Incomplete | | |

Site ID-EGG-288T-202
Assigned RF-831

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 4 |
| Projected | 0 |
| Total | 4 |

EPA CODE(s)

UNK

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

29-Jun-94

| | | | | | |
|---------------------------------------|---------------------------------|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W337 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): AMERICIUM SOLIDS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

DC's

Site ID-EGG-288T-200

Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

UNK

| <u>WASTE PARAMETERS (kg/m3)</u> | | <u>Max</u> | <u>Avg</u> | <u>Min</u> |
|---------------------------------|------------------|------------|------------|------------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--|---------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W338 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): ANL-W ANALYTICAL CHEMISTRY LABORATORY COLD-LINE ABSORBED LIQUID, MI | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

Site **IDC's**
 ID-EGG-288T-163
 Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------|-----|--------|-----|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES

(CONTINUED)

CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W339 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): ANL-W FMF EFL ZR-U FUEL CASTING ALLOYS RESIDUES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

Site ID-EGG-288T-162
Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 9 |
| Projected | 0 |
| Total | 9 |

EPA CODE(s)

UNK

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|----------------------------|------------------------------|--|--------|--|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES

(CONTINUED)

CAO-94-1005, Rev. 0
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| | | | | | | | |
|----------|--------------------------------|--|---------------|-------------------------|------------------------|--------------|-------|
| P | DATABASE WS ID | IN-W341 | | HANDLING | RH | FIELD OFFICE | Idaho |
| | WS NAME | UNKNOWN (TRU); ANL-W HFEF ANALYTICAL CHEMISTRY AND METALLOGRAPHIC COMBUSTIBLES | | | | | |
| | NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | | |
| | WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | | |
| | | - Group | Unknown Waste | TRUCON | Information Incomplete | | |

PR
 IDC's
 Site ID-EGG-288T-160
 Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------|-----|--------|-----|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--------------------------------------|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W342 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): MISCELLANEOUS SOURCES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

Site ID-EGG-288T-157
Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)
UNK

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|----------------------------|------------------|--|--------|--|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W345 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): TRU SCRAP | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5000 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **IDC's**
ID-EGG-288T-155
Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 15 |
| Projected | 0 |
| Total | 15 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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29-Jun-94

| | | | | | |
|---------------------------------------|---------------------------------|----------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | IN-W347 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): ABSORBED LIQUIDS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3113 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

Site ID-EGG-288T-102
Assigned AE-131

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 54 |
| Projected | 0 |
| Total | 54 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 461.54 | 418.27 | 370.19 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W349 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU); TRU-REMOTE HANDLED WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

IDC's
Site ID-EGG-288T-107
Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 6 |
| Projected | 0 |
| Total | 6 |

EPA CODE(s)

UNK

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------|-----|--------|-----|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W350 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): SPECIAL SOURCE MATERIAL | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

Site ID-EGG-288T-106
Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

UNK

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|----------------------------|------------------|--|--------|--|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------------|---------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W351 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | UNKNOWN (TRU): EMPTY BOTTLES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

IPC's

Site ID-EGG-288T-105

Assigned AE-110

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

UNK

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 14.42 | 4.81 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 19.23 | 4.81 | 0.00 |
| | | | | |
| Organics | Celulosics | 458.65 | 287.69 | 43.27 |
| | Rubber | 8.65 | 3.27 | 0.00 |
| | Plastics | 60.58 | 35.96 | 1.44 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 9, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|---------------------------|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W354 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | SALTS (TRU): GIBSON SALTS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3140 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Salt Waste | TRUCON | Information Incomplete | |

Site ID-EGG-146TN-412
Assigned RF-411

WASTE VOLUMES (cu. m.)

| | |
|--------------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

NA

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 101.57 | 101.57 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | | | |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 17, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|-----------------------------------|------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W355 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | SALTS (TRU): ELECTROREFINING SALT | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3140 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Salt Waste | TRUCON | Information Incomplete | |

Site ID-EGG-146TN-411
Assigned RF-411

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 101.57 | 101.57 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W356 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | SALTS (TRU): MOLTEN SALTS-30% PULVERIZED | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3140 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Salt Waste | TRUCON | Information Incomplete | |

Site IDC's
ID-EGG-146TN-410
Assigned RF-411

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 0 |
| Total | 5 |

EPA CODE(s)

NA

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 101.57 | 101.57 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | | | |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|---|----------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W357 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | PARTICULATE WASTES (TRU): FLUID BED ASH | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3111 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

Site ID-EGG-141TN-425
Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 14, 17, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|---|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W358 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | RADIOACTIVE SOURCES (TRU): PU NEUTRON SOURCES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5000 | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **IDC's**
 ID-EGG-144TN-152
 Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 0 |
| Total | 5 |

EPA CODE(s)

NA

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--|---------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W359 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | RADIOACTIVE SOURCES (TRU): NEUTRON SOURCES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

Site **IDC's**
ID-EGG-144TN-015
Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|---------------------|------------------|--|--------|--|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14 17, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--|---------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W360 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | RADIOACTIVE SOURCES (TRU): MISCELLANEOUS SOURCES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

Site **IDC's**
 ID-EGG-144TN-012
 Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------|-----|--------|-----|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Organic Matrix | | | |
| Solidified | Inorganic Matrix | | | |
| | | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--------------------------------|----------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W361 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | PARTICULATE WASTES (TRU): SOOT | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3111 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

Site ID-EGG-141TN-422
Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 0 |
| Total | 5 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 14, 17, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|------------------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | IN-W362 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | PARTICULATE WASTE (TRU): ASH HEELS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3111 | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

Site **IDC's**
 ID-EGG-141TN-421
 Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 21 |
| Projected | 0 |
| Total | 21 |

EPA CODE(s)
 NA

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--|----------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W363 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | PARTICULATE WASTES (TRU): VIRGIN INCINERATOR ASH | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3111 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

Site ID-EGG-141TN-420
Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)
NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--|--------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W364 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): SAND, SLAG, AND CRUCIBLE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3000 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Solidified Organic Waste | TRUCON | Information Incomplete | |

IDC's
Site ID-EGG-137TN-392
Assigned RF-806.1

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

NA

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 2012.02 | 625.00 | 164.90 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--|--------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W365 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): CRUCIBLES AND SAND | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3000 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Solidified Organic Waste | TRUCON | Information Incomplete | |

Site ID-EGG-137TN-391
Assigned RF-806.1

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 0 |
| Total | 5 |

EPA CODE(s)
NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 2012.02 | 625.00 | 164.90 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--|----------------------------|--------------------------------|---------------------|------------------------|
| DATABASE WS ID | IN-W366 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): LECO CRUCIBLES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3000 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

Site ID-EGG-137TN-370

Assigned RF-370

WASTE VOLUMES (cu. m.)

| | | |
|-------------|--|---|
| Retrievable | | 3 |
| Projected | | 0 |
| Total | | 3 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | Max | Avg | Min |
|------------------------------|--------|--------|------|
| Inorganics | | | |
| Iron-Based Metals/Alloys | | | |
| Aluminum-Based Metals/Alloys | | | |
| Other Metals | | | |
| Other Materials | 528.85 | 528.85 | 0.00 |
| Organics | | | |
| Celulosics | | | |
| Rubber | | | |
| Plastics | | | |
| Solidified | | | |
| Organic Matrix | | | |
| Inorganic Matrix | | | |
| Soils | | | |
| Soil | | | |
| Packaging Materials | | | |
| Steel | | 141.83 | |
| Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27.

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W367 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): GRAPHITE HEELS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5340 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Graphite Waste | TRUCON | Information Incomplete | |

Site ID-EGG-137TN-311

Assigned RF-303

WASTE VOLUMES (cu. m.)

| | |
|--------------|----------|
| Retrievable | 4 |
| Projected | 0 |
| Total | 4 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 1673.08 | 115.38 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | | | |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--|--------------------------------|------------------------|---------------------|-------|
| DATABASE WS ID | IN-W368 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): GRAPHITE SCARFINGS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5340 | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Graphite Waste | TRUCON | Information Incomplete | | |

Site ID-EGG-137TN-310
Assigned RF-303

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 3 |
| Projected | 0 |
| Total | 3 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 1673.08 | 115.38 | 0.00 |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W369 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): SCARFED GRAPHITE CHUNKS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5340 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Graphite Waste | TRUCON | Information Incomplete | |

DC's

Site ID-EGG-137TN-303

Assigned RF-303

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 12 |
| Projected | 0 |
| Total | 12 |

EPA CODE(s)

NA

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 1673.08 | 115.38 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | | | |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W370 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NONMETAL MOLDS AND CRUCIBLES (TRU): GRAPHITE WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5340 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Graphite Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-137TN-115

Assigned RF-303

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 67 |
| Projected | 0 |
| Total | 67 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 1673.08 | 115.38 | 0.00 |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|--|-------------------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W371 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | METALS (TRU): ZINC MAGNESIUM ALLOY METAL | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5100 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Unspecified Metal Waste | TRUCON | Information Incomplete | |

DC's

Site ID-EGG-132TN-416

Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

NA

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| Organics | Celulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| Solidified | Plastics | 67.57 | 15.09 | 0.00 |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|---------------------------------------|-----------------------------------|-----------------|--------------------------------|------------------------|-------|
| DATABASE WS ID | IN-W372 | HANDLING | RH | FIELD OFFICE | Idaho |
| WS NAME | METALS (TRU): MET SAMPLES FISSILE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

IDC's

Site ID-EGG-132TN-081

Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 4 |
| Projected | 0 |
| Total | 4 |

EPA CODE(s)

NA

WASTE PARAMETERS (kg/m3)

Max **Avg** **Min**

| | | | | |
|----------------------------|------------------|--|--------|--|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Organic Matrix | | | |
| Solidified | Inorganic Matrix | | | |
| | | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---------------------------------|----------------------------|--------------------------------|---------------------|------------------------|
| DATABASE WS ID | IN-W373 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | FILTERS (TRU): INSULATION HEELS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3000 | WIPP PART B APPLICATION | Not Applicable | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

Site ID-EGG-118TN-361
Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

NA

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|---|---------------------------|-------------------------|------------------------|-------|
| DATABASE WS ID | IN-W374 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | CONCRETE - BRICK (TRU): CONCRETE, ASPHALT, ETC. | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | Site | 5210 | WIPP PART B APPLICATION | Not Applicable | |
| | Group | Inorganic Non-metal Waste | TRUCON | Information Incomplete | |

Site **IDC's**
 ID-EGG-115TN-960
 Assigned RF-374

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 10 |
| Projected | 0 |
| Total | 10 |

EPA CODE(s)

NA

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 3072.12 | 584.13 | 0.00 |
| | Organics | | | |
| Organics | Celulosics | 12.02 | 12.02 | 0.00 |
| | Rubber | | | |
| | Plastics | 12.02 | 12.02 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | 144.23 | 64.90 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 14, 17, 21, 22, 27

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | KA-T01 | HANDLING | CH | FIELD OFFICE | Naval Reacto |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|--------------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|---------------------|--------------------------------|------------------------|--------------|
| DATABASE WS ID | KA-W016 | HANDLING | RH | FIELD OFFICE | Naval Reacto |
| WS NAME | TRANSURANIC DEBRIS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------------|
| DC's | |
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 11 |
| Projected | 25 |
| Total | 36 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| Organics | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes:

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | LA-T01 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | LA-003 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-------|
| Retrievable | 1745 |
| Projected | 9731 |
| Total | 11476 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | 1105.77 | 1004.81 | 759.62 |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|----|-------------------------------|-------------|
| DATABASE WS ID | LA-T02 | HANDLING | RH | FIELD OFFICE | Albuquerque |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON Information Incomplete | |

| | |
|----------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 78 |
| Projected | 930 |
| Total | 1008 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| Organics | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | LA-T03 | HANDLING | CH | FIELD OFFICE | |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 582 |
| Projected | 3244 |
| Total | 3825 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| Organics | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|----------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | LA-W034 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | SCRAP METAL - SODIUM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 6290 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | LA-002 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 110 |
| Projected | 18 |
| Total | 128 |

EPA CODE(s)

D003D

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 736.84 | 736.84 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 7, 16, 17, 21, 22, 23,

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|------------------------|-------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | LA-W035 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | DEBRIS-BARIUM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5190 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unspecified Metal Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | LA-005 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 15 |
| Projected | 0 |
| Total | 15 |

EPA CODE(s)

D005A

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 931.37 | 254.42 | 0.00 |
| | Aluminum-Based Metals/Alloys | 9.86 | 2.69 | 0.00 |
| | Other Metals | 44.45 | 12.14 | 0.00 |
| | Other Materials | 5.29 | 0.96 | 0.00 |
| | Organics | | | |
| | Celulosics | 0.12 | 0.06 | 0.00 |
| | Rubber | 180.31 | 88.71 | 0.00 |
| | Plastics | 0.02 | 0.01 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | | |
|----------|---------------------------------------|---------------------------------|----------------------------|--------------------------------|------------------------|-------------|
| P | DATABASE WS ID | LA-W036 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| | WS NAME | PROCESS RESIDUE - CHROMIUM/LEAD | | | | |
| | NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| | WASTE MATRIX CODE | - Site | 9100 | WIPP PART B APPLICATION | Information Incomplete | |
| | | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | LA-006 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 116 |
| Projected | 2 |
| Total | 118 |

| |
|--------------------|
| EPA CODE(s) |
| D007A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|---------|---------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1288.27 | 1226.73 | 1216.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 2, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|---------------------------|--------------------------|--------------------------------|------------------------|-------------|
| DATABASE WS ID | LA-W037 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | LEAD SHIELDING AND DEBRIS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5120 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-321 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 2051 |
| Projected | 1824 |
| Total | 3874 |

| |
|--------------------|
| EPA CODE(s) |
| D008C |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | LA-W038 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | CEMENTED PROCESS SLUDGE, DEBRIS - LEAD | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 9100 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

IPC's

Site Not Reported

Assigned LA-006

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 15 |
| Projected | 127 |
| Total | 143 |

EPA CODE(s)

D008A

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|---------|---------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1288.27 | 1226.73 | 1216.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 2, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------------------|--------------------------------|------------------------|---------------------|-------------|
| DATABASE WS ID | LA-W039 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | DECONTAMINATION WASTE - F001, F002 | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5490 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | LA-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 276 |
| Projected | 1433 |
| Total | 1710 |

EPA CODE(s)

| |
|------|
| F002 |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|-------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 0.04 | 0.04 | 0.00 |
| | Aluminum-Based Metals/Alloys | 0.36 | 0.36 | 0.00 |
| | Other Metals | 18.18 | 18.18 | 0.00 |
| | Other Materials | 6.84 | 6.84 | 0.00 |
| | Organics | 68.70 | 62.07 | 0.00 |
| Organics | Celulosics | 68.70 | 62.07 | 0.00 |
| | Rubber | 1.16 | 1.05 | 0.00 |
| | Plastics | 5.72 | 5.17 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | LA-W040 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | CEMENTED PROCESS SLUDGE - CR, SOLVENTS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 9100 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

Site **Not Reported**

Assigned **LA-003**

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 184 |
| Projected | 230 |
| Total | 414 |

EPA CODE(s)

| |
|-------|
| F005A |
| F001 |
| F002 |
| D007A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | 1105.77 | 1004.81 | 759.62 |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 2, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|------------------------|-------------|
| DATABASE WS ID | LA-W041 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | DEWATERED TREATMENT SLUDGES - F001,2,5 | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 9100 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete | |

Site **Not Reported**
Assigned **LA-003**

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1088 |
| Projected | 0 |
| Total | 1088 |

EPA CODE(s)

| |
|-------|
| F001 |
| F005A |
| F002 |

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|---------------------|------------------|---------|---------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1105.77 | 1004.81 | 759.62 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 2, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|--------------------------|--------------------------------|------------------------|-------------|
| DATABASE WS ID | LA-W042 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | LEAD WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5120 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | |

IDC's

Site Not Reported

Assigned RF-321

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 159 |
| Projected | 0 |
| Total | 159 |

EPA CODE(s)

D008C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|-----------------------------|----------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | LA-W045 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | DEWATERED TREATMENT SLUDGES | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 9100 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

Site Not Reported
Assigned LA-003

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 148 |
| Projected | 0 |
| Total | 148 |

EPA CODE(s)

| |
|-------|
| F001 |
| F002 |
| F005A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------|---------|---------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1105.77 | 1004.81 | 759.62 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 2, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | LB-T01 | HANDLING | CH | FIELD OFFICE | San Francisc |
| WS NAME | NON MIXED TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Unknown Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 2 |
| Total | 2 |

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|----------------------------|------------------------------|--|--------|--|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 20, 21, 22, 27,

WASTE STREAM PROFILES

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | LL-T01 | HANDLING | CH | FIELD OFFICE | Oakland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 111 |
| Projected | 810 |
| Total | 920 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|-----|--------|-----|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | LL-T02 | HANDLING | CH | FIELD OFFICE | Oakland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 111 |
| Projected | 810 |
| Total | 920 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|-----|--------|-----|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|---------------------------|--------------------------|--------------------------------|------------------------|---------|
| DATABASE WS ID | LL-W018 | HANDLING | CH | FIELD OFFICE | Oakland |
| WS NAME | TRU MIXED INORGANIC METAL | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5120 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | |

Site **Not Reported**

Assigned **RF-480**

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 1 |
| Projected | 28 |
| Total | 29 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Celulosics | 45.27 | 7.43 | 0.00 |
| Organics | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| | Organic Matrix | | | |
| Solidified | Inorganic Matrix | | | |
| | Soils | | | |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------|--------------------------------|------------------------|---------|
| DATABASE WS ID | LL-W019 | HANDLING | CH | FIELD OFFICE | Oakland |
| WS NAME | TRU MIXED HALOGENATED SOLVENTS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 2110 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Organic Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-801 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 1 |
| Projected | 21 |
| Total | 22 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 1, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|-------------------------|----------------------------|--------------------------------|------------------------|---------|
| DATABASE WS ID | LL-W020 | HANDLING | CH | FIELD OFFICE | Oakland |
| WS NAME | TRU MIXED SULFURIC ACID | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 1210 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-800 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 2 |
| Projected | 42 |
| Total | 44 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 1, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | MD-T01 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

Site Not Reported
Assigned RF-801

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 85 |
| Projected | 28 |
| Total | 113 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 18, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | MD-T02 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Combustible Waste | TRUCON | Information Incomplete | | |

Site Not Reported

Assigned RF-321

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 57 |
| Projected | 28 |
| Total | 85 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|----------------------------|--------------------------------|------------------------|-------------|
| DATABASE WS ID | MD-W002 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | CORROSIVES - TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3113 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

DC's
Site MD-833
Assigned MD-836

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)

D002B

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | 630.29 | 630.29 | 0.00 |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|------------------------|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | MD-W003 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | LEAD - TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5311 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Combustible Waste | TRUCON | Information Incomplete | | |

Site **MD-835**

Assigned **RF-339**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

D008A

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 504.81 | 254.81 | 0.00 |
| | Other Materials | 144.23 | 28.85 | 0.00 |
| Organics | Celulosics | 10.10 | 5.77 | 0.00 |
| | Rubber | 464.42 | 265.38 | 0.00 |
| | Plastics | 30.29 | 17.31 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|------------------------|-------------------------|------------------------|--------------|---------|
| DATABASE WS ID | MU-W002 | HANDLING | CH | FIELD OFFICE | Oakland |
| WS NAME | Mixed TRU Waste | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **DC's** OR-125A

Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 1 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|------------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | Celulosics | 184.81 | 80.91 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|---------------------------------|-------------------------|--------|----------------|--------|
| DATABASE WS ID | NT-W001 | HANDLING | CH | FIELD OFFICE | Nevada |
| WS NAME | NTS STORED, TRU WASTE FROM LLNL | | | | |
| NO MIGRATION VARIANCE PETITION | NT 111, NT 211 | | | | |
| WASTE MATRIX CODE - Site | 5400 | WIPP PART B APPLICATION | NR | | |
| - Group | Heterogeneous Waste | | TRUCON | NT 111, NT 211 | |

Site **LL-002**

Assigned **OR-001**

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 612 |
| Projected | 0 |
| Total | 612 |

EPA CODE(s)

| |
|-------|
| D001A |
| CA352 |
| CA352 |
| CA352 |
| CA352 |
| CA181 |
| CA181 |
| CA181 |
| CA181 |
| CA181 |
| CA181 |
| D001C |
| P015 |
| D001A |
| D002B |
| D003D |
| D006A |
| D008C |
| D007A |
| D011A |
| F001 |
| F001 |
| F001 |
| F002 |
| F003 |
| CA181 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|----------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|-----------|
| DATABASE WS ID | OR-T01 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 29 |
| Projected | 37 |
| Total | 66 |

| <u>WASTE PARAMETERS (kg/m3)</u> | | <u>Max</u> | <u>Avg</u> | <u>Min</u> |
|---------------------------------|------------------------------|------------|------------|------------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | Celulosics | 184.81 | 80.91 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | OR-T02 | HANDLING | RH | FIELD OFFICE | Oak Ridge |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Unknown Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 44 |
| Projected | 49 |
| Total | 93 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 18, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|-----------|
| DATABASE WS ID | OR-T03 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------|
| Site | DC's |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 258 |
| Projected | 336 |
| Total | 594 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| Organics | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 17, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | OR-T04 | HANDLING | RH | FIELD OFFICE | Oak Ridge |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 36 |
| Projected | 40 |
| Total | 76 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15,17, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|-----------------------------|---------------------|--------------------------------|---------------------|-----------|
| DATABASE WS ID | OR-W040 | HANDLING | RH | FIELD OFFICE | Oak Ridge |
| WS NAME | RH-TRU Heterogeneous Debris | | | | |
| NO MIGRATION VARIANCE PETITION | OR 125 (3) | | | | |
| WASTE MATRIX CODE | - Site | 5400 | WIPP PART B APPLICATION | NR | |
| | - Group | Heterogeneous Waste | TRUCON | OR 125 (3) | |

Site 2039
Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 462 |
| Projected | 198 |
| Total | 660 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 23, 25

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|----------------------------|--------------------------------|------------------------|-----------|
| DATABASE WS ID | OR-W042 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | Inactive Storage Tank Contents - MTRU Sludge | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3120 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

DC's

Site 2041

Assigned RF-800

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 110 |
| Projected | 0 |
| Total | 110 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|-----------------------------|---------------------|--------------------------------|------------------------|-----------|
| DATABASE WS ID | OR-W044 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | CH-TRU Heterogeneous Debris | | | | |
| NO MIGRATION VARIANCE PETITION | OR 125 (3) | | | | |
| WASTE MATRIX CODE | - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | OR 125 (3) | |

Site 2043
Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 511 |
| Projected | 273 |
| Total | 784 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 23, 25

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|----------------------|----------------------------|-------------------------|------------------------|------------|
| DATABASE WS ID | OR-W045.1 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | CH-TRU Uncategorized | | | | |
| NO MIGRATION VARIANCE PETITION | OR 125 (3) | | | | |
| WASTE MATRIX CODE | - Site | 8000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | | TRUCON | OR 125 (3) |

Site **2044**

Assigned **OR-001**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 23, 25

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|----------------------|---------------------|--------------------------------|------------------------|-----------|
| DATABASE WS ID | OR-W045.2 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | CH-TRU Uncategorized | | | | |
| NO MIGRATION VARIANCE PETITION | OR 125 | | | | |
| WASTE MATRIX CODE | - Site | 8000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | | TRUCON | OR 125 |

| | |
|-----------------|--------|
| Site | 2044 |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 0 |
| Total | 5 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | | | | |
| Organics | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 23, 25

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|---|----------------------------|--------------------------------|------------------------|-----------|
| DATABASE WS ID | OR-W046 | HANDLING | RH | FIELD OFFICE | Oak Ridge |
| WS NAME | Liquid Low Level Waste Storage Tanks - Sludge | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------|
| Site | 2045 |
| Assigned | RF-800 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 605 |
| Projected | 180 |
| Total | 785 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| Organics | Other Materials | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Organic Matrix | | | |
| Solidified | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| | | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 1, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

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| | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------|-----------|
| DATABASE WS ID | OR-W047 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | CH-TRU Heterogeneous Debris (With Liquids) | | | | |
| NO MIGRATION VARIANCE PETITION | OR 125 (3) | | | | |
| WASTE MATRIX CODE | - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | OR 125 (3) | |

| | |
|-----------------|--------|
| Site | 2046 |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 155 |
| Projected | 0 |
| Total | 155 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | | | |
| | Celulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 23, 25

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|----------------------------|-------------------------|------------------------|--------------|-----------|
| DATABASE WS ID | PA-W014 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | TRANSURANIC WASTE LIQUID | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 1200 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

Site **14**

Assigned **RF-800**

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 19 |
| Projected | 0 |
| Total | 19 |

EPA CODE(s)

| |
|-------|
| D007A |
| D002B |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 1, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------|-----------------|--------------------------------|------------------------|-----------|
| DATABASE WS ID | PA-W015 | HANDLING | CH | FIELD OFFICE | Oak Ridge |
| WS NAME | TRU AND TECHNETIUM WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 8200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Unknown Waste | TRUCON | Information Incomplete | |

Site 15
Assigned UNK

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 6 |
| Projected | 0 |
| Total | 6 |

EPA CODE(s)

D007A

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|----------------------------|------------------|--|--------|--|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----------------|------------------------|-------------|
| DATABASE WS ID | RF-T01 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | Not Applicable | | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-806.2 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1258 |
| Projected | 1124 |
| Total | 2382 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | RF-T02 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Unspecified Metal Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------------|
| Site | Not Reported |
| Assigned | RF-320 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 362 |
| Projected | 312 |
| Total | 674 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 317.31 | 83.65 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 1586.54 | 195.19 | 0.00 |
| | Other Materials | 19.23 | 19.23 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|----------------|------------------------|-------------|
| DATABASE WS ID | RF-T03 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | Not Applicable | | |
| | - Group | Combustible Waste | TRUCON | Information Incomplete | |

| | |
|----------|--------------|
| Site | Not Reported |
| Assigned | RF-321 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 239 |
| Projected | 187 |
| Total | 426 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | RF-T04 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | RF-480 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1256 |
| Projected | 1062 |
| Total | 2317 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Celulosics | 45.27 | 7.43 | 0.00 |
| Organics | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | RF-T05 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Filter Waste | TRUCON | Information Incomplete | | |

Site Not Reported

Assigned RF-490

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 486 |
| Projected | 437 |
| Total | 924 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 429.82 | 429.82 | 0.00 |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | 8.77 | 8.77 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---------------------------|---------------------------|--------------------------------|-----------------------|-------------|
| DATABASE WS ID | RF-W008 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Soil & Cleanup Debris/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 121 | | | | |
| WASTE MATRIX CODE | - Site | 5290 | WIPP PART B APPLICATION | BENELEX AND PLEXIGLAS | |
| | - Group | Inorganic Non-metal Waste | | TRUCON RF 121 | |

Site RF-374
Assigned RF-374

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)

| |
|-------|
| F005A |
| F002 |
| F001 |
| D008A |
| D007A |
| D006A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 3072.12 | 584.13 | 0.00 |
| Organics | Celulosics | 12.02 | 12.02 | 0.00 |
| | Rubber | | | |
| | Plastics | 12.02 | 12.02 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | 144.23 | 64.90 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------|----------------------------|--------------------------------|----------------------------|-------------|
| DATABASE WS ID | RF-W010 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Aqueous Sludge/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 111 | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | INORGANIC WASTE WATER TREA | |
| | - Group | Solidified Inorganic Waste | | TRUCON | RF 111 |

Site RF-800
Assigned RF-800

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 143 |
| Projected | 14 |
| Total | 157 |

EPA CODE(s)

| |
|-------|
| F001 |
| F002 |
| D006A |
| F001 |
| F005A |
| F005A |
| D008A |
| F002 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Solidified Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|-----------|--------------------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W011 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Metal/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 117 | | | | |
| WASTE MATRIX CODE | - Site | 5120 | WIPP PART B APPLICATION | METAL | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | RF 117 | |

IDC's

Site RF-480

Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 73 |
| Projected | 45 |
| Total | 118 |

EPA CODE(s)

| |
|-------|
| F002 |
| F002 |
| F001 |
| F001 |
| D008C |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | 45.27 | 7.43 | 0.00 |
| Solidified | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| | Organic Matrix | | | |
| Soils | Inorganic Matrix | | | |
| | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 24

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|---------------------|-------------------------|--------------|--------------|-------------|
| DATABASE WS ID | RF-W012 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Combustibles/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 116 | | | | |
| WASTE MATRIX CODE - Site | 5440 | WIPP PART B APPLICATION | COMBUSTIBLES | | |
| - Group | Heterogeneous Waste | | TRUCON | RF 116 | |

IDC's
 Site RF-831
 Assigned RF-831

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 237 |
| Projected | 124 |
| Total | 361 |

EPA CODE(s)

| |
|-------|
| F002 |
| F001 |
| F002 |
| F005A |
| F005A |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|-------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 24

WASTE STREAM PROFILES (CONTINUED)

CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|-------------------------|--------------------------|-------------------------|-----------------------|-------------|
| DATABASE WS ID | RF-W013 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Solidified Organics/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 112 | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | ORGANIC LIQUID/SLUDGE | |
| | - Group | Solidified Organic Waste | TRUCON | RF 112 | |

Site **RF-801**

Assigned **RF-801**

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 11 |
| Projected | 10 |
| Total | 21 |

EPA CODE(s)

| |
|------|
| F002 |
| F002 |
| F001 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | | | |
|----------------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 19

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|---------------------|---------------------|--------------------------------|------------------------------|-------------|
| DATABASE WS ID | RF-W026 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Used Absorbents/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 122 | | | | |
| WASTE MATRIX CODE | - Site | 3119 | WIPP PART B APPLICATION | FIREBRICK AND CERAMIC CRUCIB | |
| | - Group | Heterogeneous Waste | TRUCON | RF 122 | |

DC's

Site RF-375

Assigned RF-375

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|------|
| F001 |
| F001 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | 4.81 | 4.81 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 961.54 | 557.69 | 216.35 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | 38.46 | 38.46 | 0.00 |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

29-Jun-94

| | | | | | |
|--------------------------------|----------|--------------------------|-------------------------|--------------|-------------|
| DATABASE WS ID | RF-W028 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Lead/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | | RF 117 | | | |
| WASTE MATRIX CODE | - Site | 7200 | WIPP PART B APPLICATION | METAL | |
| | - Group | Lead/Cadmium Metal Waste | | TRUCON | RF 117 |

Site **RF-321**

Assigned **RF-321**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 4 |
| Projected | 3 |
| Total | 7 |

EPA CODE(s)

D008C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|-------------------|-------------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W029 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Leaded Gloves/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 123 | | | | |
| WASTE MATRIX CODE | - Site | 5311 | WIPP PART B APPLICATION | LEADED RUBBER | |
| | - Group | Combustible Waste | | TRUCON | RF 123 |

Site RF-339
Assigned RF-339

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 20 |
| Projected | 12 |
| Total | 32 |

EPA CODE(s)
D008A

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 504.81 | 254.81 | 0.00 |
| | Other Materials | 144.23 | 28.85 | 0.00 |
| Organics | Celulosics | 10.10 | 5.77 | 0.00 |
| | Rubber | 464.42 | 265.38 | 0.00 |
| | Plastics | 30.29 | 17.31 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 24

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|------------------|---------------------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W032 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Ground Glass/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 118 | | | | |
| WASTE MATRIX CODE | - Site | 3119 | WIPP PART B APPLICATION | GLASS | |
| | - Group | Inorganic Non-metal Waste | TRUCON | RF 118 | |

| | |
|-----------------|--------|
| Site | RF-444 |
| Assigned | RF-440 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 6 |
| Total | 8 |

EPA CODE(s)

D008A

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| Organics | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 19

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|------------------------------------|---------------------|-------------------------|------------------------------|-------------|
| DATABASE WS ID | RF-W036 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Firebrick, Pulverized or Fines/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 122 | | | | |
| WASTE MATRIX CODE | - Site | 3119 | WIPP PART B APPLICATION | FIREBRICK AND CERAMIC CRUCIB | |
| | - Group | Heterogeneous Waste | TRUCON | RF 122 | |

Site **RF-377**

Assigned **RF-377**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 1 |
| Total | 2 |

EPA CODE(s)

| |
|-------|
| F002 |
| D004A |
| D006A |
| D007A |
| D008A |
| F001 |
| F002 |
| F005A |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 338.22 | 269.23 | 216.35 |
| Organics | Celulosics | 57.69 | 57.69 | 0.00 |
| | Rubber | | | |
| | Plastics | 38.46 | 38.46 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|--------------------------|-------------------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W037 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Heavy Metal (non-SS)/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 117 | | | | |
| WASTE MATRIX CODE | - Site | 5190 | WIPP PART B APPLICATION | METAL | |
| | - Group | Unspecified Metal Waste | | TRUCON | RF 117 |

DC's

Site RF-320

Assigned RF-320

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 0 |
| Total | 5 |

EPA CODE(s)

D008C

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 317.31 | 83.65 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 1586.54 | 195.19 | 0.00 |
| | Other Materials | 19.23 | 19.23 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------|----------------------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W038 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Solidified Lab Waste/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 113 | | | | |
| WASTE MATRIX CODE | - Site | 3150 | WIPP PART B APPLICATION | SOLIDIFIED LIQUID | |
| | - Group | Solidified Inorganic Waste | | TRUCON | RF 113 |

Site RF-802
Assigned RF-802

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 1 |
| Projected | 26 |
| Total | 28 |

EPA CODE(s)

D007A

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1418.27 | 1201.92 | 519.23 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|----------------------------|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | RF-W040 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Incinerator Ash/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3111 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

IDC's
 Site Not Reported
 Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1202 |
| Projected | 0 |
| Total | 1202 |

EPA CODE(s)

| |
|-------|
| D011A |
| D005A |
| D006A |
| D004A |
| D007A |
| D008A |
| D009A |
| D010A |
| F001 |
| F002 |
| F002 |
| |
| F001 |
| F005A |

WASTE PARAMETERS (kg/m3) Max Avg Min

| | | | | |
|----------------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 6, 8, 16, 21, 22, 23, 24

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|-------------------------------------|-------------------|--------------------------------|-----------------------------|-------------|
| DATABASE WS ID | RF-W041 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Leaded Gloves-Acid Contaminated/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5311 | WIPP PART B APPLICATION | LEADED RUBBER (UNSPECIFIED) | |
| | - Group | Combustible Waste | TRUCON | Information Incomplete | |

DC's

Site RF-341

Assigned RF-339

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 28 |
| Projected | 9 |
| Total | 37 |

EPA CODE(s)

D008A

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 504.81 | 254.81 | 0.00 |
| | Other Materials | 144.23 | 28.85 | 0.00 |
| Organics | Celulosics | 10.10 | 5.77 | 0.00 |
| | Rubber | 464.42 | 265.38 | 0.00 |
| | Plastics | 30.29 | 17.31 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 21, 22

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|-----------|---------------------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W052 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Glass/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 118 | | | | |
| WASTE MATRIX CODE | - Site | 5220 | WIPP PART B APPLICATION | GLASS | |
| | - Group | Inorganic Non-metal Waste | TRUCON | RF 118 | |

Site RF-440
Assigned RF-440

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 15 |
| Projected | 4 |
| Total | 18 |

EPA CODE(s)

| |
|-------|
| F001 |
| D005A |
| F001 |
| F002 |
| F002 |
| D008A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| Organics | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 24

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|------------------------|---------------------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W056 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Mg Oxide Crucibles/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 118 | | | | |
| WASTE MATRIX CODE | - Site | 5230 | WIPP PART B APPLICATION | GLASS | |
| | - Group | Inorganic Non-metal Waste | TRUCON | RF 118 | |

Site RF-370
Assigned RF-370

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 193 |
| Projected | 0 |
| Total | 193 |

EPA CODE(s)

| |
|-------|
| D006A |
| D003D |
| D003D |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 528.85 | 528.85 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE STREAM PROFILES

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| | | | | | | |
|----------|--|----------------|---------------------------|--------------------------------|------------------------------|-------------|
| P | DATABASE WS ID | RF-W057 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| | WS NAME | Insulation/TRM | | | | |
| | NO MIGRATION VARIANCE PETITION RF 122 | | | | | |
| | WASTE MATRIX CODE | - Site | 5290 | WIPP PART B APPLICATION | FIREBRICK AND CERAMIC CRUCIB | |
| | | - Group | Inorganic Non-metal Waste | | TRUCON RF 122 | |

Site RF-438
Assigned RF-438

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 4 |
| Total | 4 |

EPA CODE(s)

| |
|------|
| F001 |
| F001 |
| F002 |
| F002 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 293.27 | 194.71 | 24.04 |
| Organics | Celulosics | 9.62 | 4.81 | 1.20 |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---------------------------------|-----------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W058 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Misc Pu Recovery Byproducts/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 124 | | | | |
| WASTE MATRIX CODE | - Site | 3141 | WIPP PART B APPLICATION | PYROCHEMICAL SALT | |
| | - Group | Salt Waste | | TRUCON | RF 124 |

Site RF-411
Assigned RF-429

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 754 |
| Projected | 0 |
| Total | 754 |

EPA CODE(s)

| |
|-------|
| D002B |
| D003D |
| D007A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 14.42 | 12.02 | 0.48 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 567.30 | 216.30 | 48.10 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 24

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|------------------------------|----------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | RF-W059 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Sand, Slag, and Crucible/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | Site | 3119 | WIPP PART B APPLICATION | Information Incomplete | |
| | Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

IDC's

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-806.2 |

WASTE VOLUMES (cu. m.)

| | |
|--------------|------------|
| Retrievable | 461 |
| Projected | 0 |
| Total | 461 |

EPA CODE(s)

| |
|-------|
| D007A |
| D003D |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 21, 22, 23, 24

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|---------------------|-------------------------|----------|--------------|-------------|
| DATABASE WS ID | RF-W060 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Coarse Graphite/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 115 | | | | |
| WASTE MATRIX CODE - Site | 5340 | WIPP PART B APPLICATION | GRAPHITE | | |
| - Group | Graphite Waste | TRUCON | RF 115 | | |

DC's

Site RF-303

Assigned RF-303

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| D006A |
|-------|

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 1673.08 | 115.38 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 24

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|---------------------------|----------------------------|--------------------------------|------------------------|-------------|
| DATABASE WS ID | RF-W063 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Miscellaneous Liquids/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 1190 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-800 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 36 |
| Projected | 14 |
| Total | 50 |

EPA CODE(s)

| |
|-------|
| D007A |
| D002B |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 1, 8, 16, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|------------------------|----------------------------|--------------------------------|------------------------|-------------|
| DATABASE WS ID | RF-W065 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Calcium Metal/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 6290 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

Site RF-333
Assigned RF-800

WASTE VOLUMES (cu. m.)

| | | |
|-------------|--|---|
| Retrievable | | 0 |
| Projected | | 0 |
| Total | | 0 |

EPA CODE(s)
D003D

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 7, 16, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|---------------------|-----------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W066 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Filters & Media/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 119 | | | | |
| WASTE MATRIX CODE | - Site | 5410 | WIPP PART B APPLICATION | FILTERS | |
| | - Group | Filter Waste | | TRUCON | RF 119 |

IDC's

Site RF-490

Assigned RF-490

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 81 |
| Projected | 17 |
| Total | 98 |

EPA CODE(s)

| |
|-------|
| D006A |
| D009X |
| D001C |
| D002B |
| D004A |
| D007A |
| D008A |
| D011A |
| D003E |
| F001 |
| D010A |
| F002 |
| F005A |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 429.82 | 429.82 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | 8.77 | 8.77 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 24

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|----------------------|-----------------|--------------------------------|---------------------|-------------|
| DATABASE WS ID | RF-W067 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Cemented Filters/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | RF 119 | | | | |
| WASTE MATRIX CODE | - Site | 5410 | WIPP PART B APPLICATION | FILTERS | |
| | - Group | Filter Waste | TRUCON | RF 119 | |

Site RF-376
Assigned RF-376

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 125 |
| Projected | 5 |
| Total | 130 |

EPA CODE(s)

| |
|-------|
| D009X |
| D001C |
| D002B |
| D003E |
| D005A |
| D006A |
| F003 |
| D008A |
| F001 |
| F002 |
| D007A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 24.04 | 4.81 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 1418.27 | 254.81 | 0.00 |
| Organics | Celulosics | | | |
| | Rubber | | | |
| Solidified | Plastics | 38.46 | 14.42 | 0.00 |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 24

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|---------------------------------------|----------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | RF-W068 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| | WS NAME Particulate Sludge/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | | Information Incomplete | | | |
| WASTE MATRIX CODE | - Site | 3129 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-806.2 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 61 |
| Projected | 0 |
| Total | 61 |

EPA CODE(s)

| |
|-------|
| D006A |
| D001C |
| D007A |
| D008A |
| F001 |
| F002 |
| F001 |
| F002 |
| F005A |
| |
| F005A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Soils | Organic Matrix | 2012.02 | 625.00 | 164.90 |
| | Inorganic Matrix | | | |
| Packaging Materials | Soil | | | |
| | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 8, 13, 16, 17, 21, 22, 23, 24

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|------------------------|--------------------------|--------------------------------|------------------------|-------------|
| DATABASE WS ID | RF-W069 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Organic Resins/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 3212 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Organic Waste | TRUCON | Information Incomplete | |

Site Not Reported
Assigned RF-806.1

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 13 |
| Projected | 0 |
| Total | 13 |

EPA CODE(s)

| |
|-------|
| F001 |
| F002 |
| D007A |
| D006A |
| D008A |
| D001C |
| F001 |
| F005A |
| F005A |
| F002 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 2012.02 | 625.00 | 164.90 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 21, 22, 23, 24

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|----------------------------|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | RF-W076 | HANDLING | CH | FIELD OFFICE | Rocky Flats |
| WS NAME | Process Residues/TRM | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3119 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

Site **DC's**
 Not Reported
 Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 70 |
| Projected | 0 |
| Total | 70 |

EPA CODE(s)

| |
|-------|
| F002 |
| D008A |
| D007A |
| D001C |
| F005A |
| D006A |
| F002 |
| F005A |
| |
| F001 |
| F001 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|---------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|----------|
| DATABASE WS ID | RL-T01 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | OR-001 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 1987 |
| Projected | 2907 |
| Total | 4894 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|------------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | Celulosics | 184.81 | 80.91 |
| Rubber | | 17.88 | 7.36 | 0.00 |
| Plastics | | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|--------|------------------------|----------|
| DATABASE WS ID | RL-T02 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Soil | TRUCON | Information Incomplete | |

IPC's
Site Not Reported
Assigned RF-374

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 4587 |
| Projected | 2907 |
| Total | 7494 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 3072.12 | 584.13 | 0.00 |
| | Organics | | | |
| | Celulosics | 12.02 | 12.02 | 0.00 |
| | Rubber | | | |
| | Plastics | 12.02 | 12.02 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | 144.23 | 64.90 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|----|-------------------------------|----------|
| DATABASE WS ID | RL-T03 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON Information Incomplete | |

| | |
|----------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | RF-831 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-------|
| Retrievable | 8907 |
| Projected | 2907 |
| Total | 11814 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| | Organics | | | |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 23, 27

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | RL-T04 | HANDLING | RH | FIELD OFFICE | Richland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

Site Not Reported

Assigned OR-001

WASTE VOLUMES (cu. m.)

| | |
|--------------|-------------|
| Retrievable | 201 |
| Projected | 1227 |
| Total | 1428 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|------------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-Based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Materials | 24.04 | 2.41 | 0.00 |
| | Organics | Celulosics | 184.81 | 80.91 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified | Organic Matrix | 2.98 | 0.01 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | RL-T05 | HANDLING | RH | FIELD OFFICE | Richland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Solidified Inorganic Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-440 |

WASTE VOLUMES (cu. m)

| | |
|-------------|------|
| Retrievable | 0 |
| Projected | 1227 |
| Total | 1227 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|---------------------------------|------------------------------|------------|------------|------------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| | Organics | | | |
| | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | RL-T06 | HANDLING | RH | FIELD OFFICE | Richland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Heterogeneous Waste | | TRUCON | Information Incomplete |

Site **Not Reported**

Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 0 |
| Projected | 1227 |
| Total | 1227 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|------------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | Celulosics | 45.27 | 7.43 |
| Rubber | | | | |
| Plastics | | 67.57 | 15.09 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

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| | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|----|---------------------|------------------------|
| DATABASE WS ID | RL-T07 | HANDLING | RH | FIELD OFFICE | Richland |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Inorganic Non-metal Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | RF-371 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 0 |
| Projected | 1227 |
| Total | 1227 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 572.12 | 572.12 | 0.00 |
| | Organics | | | |
| Organics | Celulosics | 24.04 | 24.04 | 0.00 |
| | Rubber | | | |
| | Plastics | 24.04 | 24.04 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|----------|
| DATABASE WS ID | RL-W072 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | TC METAL INORGANIC SOLID DEBRIS, TRU(HG) | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5420 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **TRUM-02**
Assigned **RF-480**

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 8 |
| Projected | 5 |
| Total | 13 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|------------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Organics | Celulosics | 45.27 | 7.43 |
| Rubber | | | | |
| Plastics | | 67.57 | 15.09 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|------------------------------------|------------------------|-------------------------|------------------------|----------|
| DATABASE WS ID | RL-W074 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | TC METAL ORGANIC SOLID DEBRIS, TRU | | | | |
| NO MIGRATION VARIANCE PETITION | | Information Incomplete | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

Site **TRUM-04**

Assigned **RH-001**

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 30 |
| Projected | 21 |
| Total | 51 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 432.69 | 115.38 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.24 | 0.00 | 0.00 |
| | Other Materials | 101.11 | 49.05 | 0.00 |
| | Organics | | | |
| | Celulosics | 10.67 | 0.48 | 0.00 |
| | Rubber | 96.26 | 7.21 | 0.00 |
| | Plastics | 155.00 | 16.34 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

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| | | | | | |
|---------------------------------------|---|---------------------|--------------------------------|------------------------|----------|
| DATABASE WS ID | RL-W075 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | TC METAL ORGANIC SOLID DEBRIS, TRU (HG) | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

Site TRUM-05
Assigned RH-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 3 |
| Total | 8 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 432.69 | 115.38 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.24 | 0.00 | 0.00 |
| | Other Materials | 101.11 | 49.05 | 0.00 |
| Organics | Celulosics | 10.67 | 0.48 | 0.00 |
| | Rubber | 96.26 | 7.21 | 0.00 |
| | Plastics | 155.00 | 16.34 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------|----------|
| DATABASE WS ID | RL-W077 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | NON-TC MET/SOLVENT ORG. SOLID DEBRIS-TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

Site TRUM-07
Assigned RH-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 3 |
| Total | 8 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 432.69 | 115.38 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.24 | 0.00 | 0.00 |
| | Other Materials | 101.11 | 49.05 | 0.00 |
| Organics | Celulosics | 10.67 | 0.48 | 0.00 |
| | Rubber | 96.26 | 7.21 | 0.00 |
| | Plastics | 155.00 | 16.34 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--------------------------|-------------------------|------------------------|--------------|----------|
| DATABASE WS ID | RL-W078 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | LEAD ACID BATTERIES, TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 7410 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | | |

IDC's
 Site TRUM-08
 Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 1 |
| Projected | 33 |
| Total | 34 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| Organics | Celulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| Solidified | Plastics | 67.57 | 15.09 | 0.00 |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 11, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|-------------------------------|--------------------------|-------------------------|------------------------|----------|
| DATABASE WS ID | RL-W079 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | LEAD ACID BATTERIES, TRU (HG) | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 7410 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | |

Site **IDC's** TRUM-09

Assigned RF-480

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 0 |
| Projected | 22 |
| Total | 23 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| Organics | Celulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| Solidified | Plastics | 67.57 | 15.09 | 0.00 |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 11, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|------------------------------|-------------------------|------------------------|--------------|----------|
| DATABASE WS ID | RL-W080 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | RADIOACTIVE LEAD SOLIDS, TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5420 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **TRUM-10**

Assigned **RF-321**

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 27 |
| Projected | 2 |
| Total | 29 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

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| | | | | | |
|---------------------------------------|------------------------------------|---------------------|--------------------------------|------------------------|----------|
| DATABASE WS ID | RL-W081 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | RADIOACTIVE LEAD GLASS SOLIDS, TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5490 | WIPP PART 8 APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

DC's

Site TRUM-11

Assigned RF-440

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 1 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 290.75 | 290.75 | 0.00 |
| | Organics | | | |
| | Celulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE STREAM PROFILES

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| | | | | | |
|---------------------------------------|-----------------------------------|--------------------------|--------------------------------|------------------------|----------|
| DATABASE WS ID | RL-W082 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | RADIOACTIVE LEAD SOLIDS, TRU (HG) | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 7200 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | |

DC's

Site **TRUM-12**

Assigned **RF-321**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|-----------------------------------|--------------------------|--------------------------------|------------------------|----------|
| DATABASE WS ID | RL-W083 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | RADIOACTIVE LEAD SOLIDS, TRU (LB) | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5120 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | |

IDC's

Site TRUM-13

Assigned RF-321

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

WASTE PARAMETERS (kg/m³)

| | | Max | Avg | Min |
|---------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------|----------|
| DATABASE WS ID | RL-W085 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | SOLVENT/TC METAL INORG. SOLID DEBRIS-TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5420 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

DC's

Site **TRUM-15**

Assigned **RF-480**

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 1 |
| Total | 4 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-Based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Materials | 29.28 | 29.28 | 0.00 |
| | Celulosics | 45.27 | 7.43 | 0.00 |
| Organics | Rubber | 67.57 | 15.09 | 0.00 |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|---|---------------------|--------------------------------|------------------------|----------|
| DATABASE WS ID | RL-W086 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | SOLVENT/TC METAL ORG. SOLID DEBRIS, TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

Site TRUM-16
Assigned RF-831

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 5 |
| Projected | 4 |
| Total | 9 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| | | | | |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|---------------------------------------|--|---------------------|--------------------------------|------------------------|----------|
| DATABASE WS ID | RL-W101 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | WA NON-TC/SOLV. ORG. SOLID DEBRIS, TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 5440 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Heterogeneous Waste | TRUCON | Information Incomplete | |

| | |
|-----------------|---------|
| Site | TRUM-17 |
| Assigned | RF-831 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 2 |
| Projected | 169 |
| Total | 171 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|------------------------|-------------------------|------------------------|--------------|----------|
| DATABASE WS ID | RL-W133 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | MTRU-SOIL-TC MET | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 4200 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Soil | TRUCON | Information Incomplete | | |

Site **IDC's**
 TRUM-21
 Assigned MD-842

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 12 |
| Projected | 274 |
| Total | 286 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | 0.57 | 0.57 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.15 | 0.08 | 0.00 |
| | Other Materials | 33.91 | 5.70 | 0.00 |
| Organics | Celulosics | 0.71 | 0.71 | 0.00 |
| | Rubber | | | |
| Solidified | Plastics | | | |
| | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | 671.46 | 564.57 | 457.45 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|---------------------------------------|-----------------------------|--------------------------|--------------------------------|------------------------|------------------------|
| DATABASE WS ID | RL-W134 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | MTRU-APPENDIX V LABPACKS-CA | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 6190 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Organic Waste | | TRUCON | Information Incomplete |

Site TRUM-22
Assigned RH-004

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 0 |
| Projected | 22 |
| Total | 22 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|-------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 75.00 | 75.00 | 0.00 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 5, 16, 17, 21, 22, 23, 24

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|-------------------------------------|----------------------------|--------------------------------|------------------------|----------|
| DATABASE WS ID | RL-W135 | HANDLING | CH | FIELD OFFICE | Richland |
| WS NAME | MTRU-APPENDIX V LABPACKS-SOLVENT/CA | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 6190 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | |

DC's

Site RH-001

Assigned RH-001

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 2 |
| Projected | 107 |
| Total | 109 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | 432.69 | 115.38 | 0.00 |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 0.24 | 0.00 | 0.00 |
| | Other Materials | 101.11 | 49.05 | 0.00 |
| | Organics | | | |
| | Celulosics | 10.67 | 0.48 | 0.00 |
| | Rubber | 96.26 | 7.21 | 0.00 |
| | Plastics | 155.00 | 16.34 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 5, 16, 17, 21, 22, 23, 24

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|------------------------|-------------------------|------------------------|--------------|-------------|
| DATABASE WS ID | SA-T01 | HANDLING | CH | FIELD OFFICE | Albuquerque |
| WS NAME | NON MIXED TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 8900 | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Unknown Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------------|
| IDC's | |
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 0 |
| Projected | 46 |
| Total | 46 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|-----|--------|-----|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 20, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|------------------------|-------------|
| DATABASE WS ID | SA-W134 | HANDLING | RH | FIELD OFFICE | Albuquerque |
| WS NAME | TRANSURANIC WASTE AT HOT CELL FACILITY | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 8900 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Unknown Waste | | TRUCON | Information Incomplete | |

| | |
|----------|--------------|
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 1 |
| Projected | 0 |
| Total | 1 |

EPA CODE(s)

UNK

WASTE PARAMETERS (kg/m3)

| | Max | Avg | Min |
|----------------------------|-----|--------|-----|
| Inorganics | | | |
| Iron-Based | | | |
| Metals/Alloys | | | |
| Aluminum-Based | | | |
| Metals/Alloys | | | |
| Other Metals | | | |
| Other Materials | | | |
| Organics | | | |
| Celulosics | | | |
| Rubber | | | |
| Plastics | | | |
| Solidified | | | |
| Organic Matrix | | | |
| Inorganic Matrix | | | |
| Soils | | | |
| Soil | | | |
| Packaging Materials | | | |
| Steel | | 141.83 | |
| Plastic | | 39.42 | |

Footnotes: 16, 21, 22, 23, 26

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|----------------|------------------------|--------------|
| DATABASE WS ID | SR-T01 | HANDLING | CH | FIELD OFFICE | Savannah Riv |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Solidified Organic Waste | | TRUCON | Information Incomplete | |

| | |
|----------|--------------|
| IDC's | Not Reported |
| Assigned | RF-801 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 198 |
| Projected | 124 |
| Total | 323 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|--------------|
| DATABASE WS ID | SR-T02 | HANDLING | CH | FIELD OFFICE | Savannah Riv |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Combustible Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------------|
| Site | Not Reported |
| Assigned | RF-831 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 4747 |
| Projected | 2987 |
| Total | 7734 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| | Organics | | | |
| Organics | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by porportioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|---------------------------------------|------------------------|--------------------------|--------------------------------|------------------------|--------------|
| DATABASE WS ID | SR-W006 | HANDLING | CH | FIELD OFFICE | Savannah Riv |
| WS NAME | MIXED TTA/XYLENE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | 2000 | WIPP PART B APPLICATION | Information Incomplete | |
| | - Group | Solidified Organic Waste | TRUCON | Information Incomplete | |

Site **DC's**
Not Reported

Assigned RF-801

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| Solidified | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Organic Matrix | | 1134.62 | 923.08 | 350.96 |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| | Packaging Materials | | | |
| Steel | | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 1, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|------------------------|-------------------------|------------------------|------------------------|--------------|
| DATABASE WS ID | SR-W026 | HANDLING | CH | FIELD OFFICE | Savannah Riv |
| WS NAME | THIRDS TRU WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | | TRUCON | Information Incomplete | |

Site **049/050**

Assigned **RF-831**

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 67 |
| Projected | 5813 |
| Total | 5880 |

WASTE PARAMETERS (kg/m3)

| | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| | Organics | | | |
| | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|------------------------|-------------------------|------------------------|--------------|--------------|
| DATABASE WS ID | SR-W027 | HANDLING | CH | FIELD OFFICE | Savannah Riv |
| WS NAME | SOLVENT TRU WASTE | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 5400 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Heterogeneous Waste | TRUCON | Information Incomplete | | |

Site **049/050**
Assigned **RF-831**

WASTE VOLUMES (cu. m.)

| | |
|-------------|------|
| Retrievable | 4956 |
| Projected | 0 |
| Total | 4956 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|----------------------------|------------------------------|--------|--------|------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | 4.23 | 1.10 | 0.00 |
| | Organics | | | |
| | Celulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED)

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| | | | | | |
|--------------------------------|--|-------------------------|------------------------|--------------|--------------|
| DATABASE WS ID | SR-W044 | HANDLING | CH | FIELD OFFICE | Savannah Riv |
| WS NAME | TRI-BUTYL-PHOSPHATE & N-PARAFFIN - TRU | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 2100 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Organic Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------|
| Site | IDC's |
| Assigned | RF-801 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 3 |
| Projected | 0 |
| Total | 3 |

WASTE PARAMETERS (kg/m3)

| | Max | Avg | Min |
|----------------------------|---------|--------|--------|
| Inorganics | | | |
| Iron-Based | | | |
| Metals/Alloys | | | |
| Aluminum-Based | | | |
| Metals/Alloys | | | |
| Other Metals | | | |
| Other Materials | | | |
| Organics | | | |
| Celulosics | | | |
| Rubber | | | |
| Plastics | | | |
| Solidified | | | |
| Organic Matrix | 1134.62 | 923.08 | 350.96 |
| Inorganic Matrix | | | |
| Soils | | | |
| Soil | | | |
| Packaging Materials | | | |
| Steel | | 141.83 | |
| Plastic | | 39.42 | |

Footnotes: 1, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|-----------------------------|-------------------------|------------------------|--------------|--------------|
| DATABASE WS ID | SR-W053 | HANDLING | CH | FIELD OFFICE | Savannah Riv |
| WS NAME | ROCKY FLATS INCINERATOR ASH | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3111 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

DC's
 Site Not Reported
 Assigned RF-806.2

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| | Organics | | | |
| | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 21, 22, 23

WASTE STREAM PROFILES (CONTINUED) CAO-94-1005, Rev. 0 June 1994

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| | | | | | |
|--------------------------------|--------------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | WV-T01 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | | WIPP PART B APPLICATION | Not Applicable | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

| | |
|-------|--------------|
| IDC's | Site |
| | Not Reported |
| | Assigned |
| | RF-806.2 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 19 |
| Projected | 0 |
| Total | 19 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|---------|--------|--------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

WASTE STREAM PROFILES

(CONTINUED)

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| | | | | | |
|--------------------------------|--------------------------------|--------------------------|----|----------------|------------------------|
| DATABASE WS ID | WV-T02 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | NON MIXED TRU DERIVED FROM IDB | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | - Group | Lead/Cadmium Metal Waste | | TRUCON | Information Incomplete |

| | |
|----------|--------------|
| Site | Not Reported |
| Assigned | RF-321 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|----|
| Retrievable | 29 |
| Projected | 0 |
| Total | 29 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCGs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

Footnotes: 15, 18, 21, 22, 27

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| | | | | | | |
|--|---------------------------------------|------------------------|--------------------------------|----|---------------------|------------------------|
| P R E M I N A R Y | DATABASE WS ID | WV-T03 | HANDLING | RH | FIELD OFFICE | Idaho |
| | WS NAME | NON MIXED TRU | | | | |
| | NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| | WASTE MATRIX CODE | - Site | WIPP PART B APPLICATION | | Not Applicable | |
| | | - Group | Unknown Waste | | TRUCON | Information Incomplete |

| | |
|-----------------|--------------|
| Site | Not Reported |
| Assigned | UNK |

WASTE VOLUMES (cu. m.)

| | |
|-------------|-----|
| Retrievable | 499 |
| Projected | 0 |
| Total | 499 |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|---------------------------------|------------------------------|------------|------------|------------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

These are not actual site-generated waste streams. The non-mixed TRU waste volume was calculated from the difference between the 1993 IDB and the Phase II MWIR. These IDCs, WMCs, and WMCs were generated by portioning the TRU waste volumes to the major mixed TRU waste streams.

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|--------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | WV-W024 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | TRU LEAD | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 7200 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Lead/Cadmium Metal Waste | TRUCON | Information Incomplete | | |

Site **IDC's** 2404

Assigned RF-321

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 2 |
| Projected | 0 |
| Total | 2 |

EPA CODE(s)

D008C

WASTE PARAMETERS (kg/m3)

Max Avg Min

| | | | | |
|---------------------|------------------------------|--------|--------|-------|
| Inorganics | Iron-Based Metals/Alloys | | | |
| | Aluminum-Based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 16, 17, 21, 22, 23

WASTE STREAM PROFILES

(CONTINUED) CAO-94-1005, Rev. 0
June 1994

29-Jun-94

| | | | | | |
|--------------------------------|-----------------------------|-------------------------|------------------------|--------------|-------|
| DATABASE WS ID | WV-W041 | HANDLING | CH | FIELD OFFICE | Idaho |
| WS NAME | TRU PAINT (DRY) WITH METALS | | | | |
| NO MIGRATION VARIANCE PETITION | Information Incomplete | | | | |
| WASTE MATRIX CODE - Site | 3131 | WIPP PART B APPLICATION | Information Incomplete | | |
| - Group | Solidified Inorganic Waste | TRUCON | Information Incomplete | | |

| | |
|----------|--------------|
| Site | Not Reported |
| Assigned | RF-806.2 |

WASTE VOLUMES (cu. m.)

| | |
|-------------|---|
| Retrievable | 0 |
| Projected | 0 |
| Total | 0 |

EPA CODE(s)

| |
|-------|
| D007A |
| D008A |

| WASTE PARAMETERS (kg/m3) | | Max | Avg | Min |
|--------------------------|------------------|---------|--------|--------|
| Inorganics | Iron-Based | | | |
| | Metals/Alloys | | | |
| | Aluminum-Based | | | |
| | Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Materials | | | |
| Organics | Celulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified | Organic Matrix | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Footnotes: 3, 8, 16, 17, 21, 22, 23

APPENDIX F

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| AE | Categorized Metal | MTRU | CH | 100.0% |
| | Solidified Inorganics | MTRU | CH | 3.4% |
| | Solidified Inorganics | TRU | CH | 96.6% |
| | Solidified Organics | MTRU | CH | 100.0% |
| | Uncategorized Metal | TRU | CH | 100.0% |
| | Uncategorized Metal | TRU | RH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES

30-Jun-94

DOE TRU SITE: AE

WASTE PARAMETERS FOR Lead/Cadmium Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AE-W041 | 0.00 | 0.70 | 0.70 |
| AE-W042 | 0.40 | 0.00 | 0.40 |
| | 0.40 | 0.70 | 1.10 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 93.13 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 10.10 | 0.00 |
| | Other Metals | 913.46 | 201.72 | 0.00 |
| | Other Inorganic Materials | 29.28 | 10.65 | 0.00 |
| Organics | Cellulosics | 45.27 | 2.70 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 5.49 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AE-W038 | 3.30 | 2.00 | 5.30 |
| AE-W040 | 0.40 | 0.00 | 0.40 |
| AE-T01 | 17.40 | 142.40 | 159.80 |
| | 21.10 | 144.40 | 165.50 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 1057.69 | 419.18 | 346.15 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Organic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AE-W030 | 0.03 | 0.13 | 0.15 |
| | 0.03 | 0.13 | 0.15 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2012.02 | 625.00 | 164.80 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Unspecified Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AE-T03 | 4.40 | 35.70 | 40.10 |
| | 4.40 | 35.70 | 40.10 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|-------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES

30-Jun-94

DOE TRU SITE: AE

WASTE PARAMETERS FOR Unspecified Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AE-T02 | 0.00 | 47.60 | 47.60 |
| | 0.00 | 47.60 | 47.60 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|-------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------|--------------------|----------|---------|
|------|-------------|--------------------|----------|---------|

| | | | | |
|----|-----------------------|------|----|--------|
| AL | Solidified Inorganics | MTRU | CH | 100.0% |
|----|-----------------------|------|----|--------|

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: AL

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AL-W008 | 0.00 | 0.25 | 0.25 |
| | 0.00 | 0.25 | 0.25 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| AW | Filter | MTRU | RH | 100.0% |
| | Heterogeneous | MTRU | RH | 100.0% |
| | Solidified Inorganics | MTRU | RH | 100.0% |
| | Uncategorized Metal | MTRU | RH | 100.0% |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: AW

WASTE PARAMETERS FOR Filter Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AW-W024 | 7.14 | 0.39 | 7.53 |
| | 7.14 | 0.39 | 7.53 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 429.82 | 429.82 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | 8.77 | 8.77 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AW-W020 | 0.00 | 0.20 | 0.20 |
| | 0.00 | 0.20 | 0.20 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Lead/Cadmium Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AW-W016 | 0.00 | 0.88 | 0.88 |
| | 0.00 | 0.88 | 0.88 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Inorganic Materials | 29.28 | 29.28 | 0.00 |
| Organics | Cellulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AW-W022 | 0.00 | 0.07 | 0.07 |
| | 0.00 | 0.07 | 0.07 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Unspecified Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| AW-W018 | 0.14 | 0.01 | 0.15 |
| AW-W019 | 0.01 | 0.00 | 0.01 |
| AW-W021 | 0.00 | 0.60 | 0.60 |
| | 0.15 | 0.61 | 0.76 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Inorganic Materials | 29.28 | 29.28 | 0.00 |
| Organics | Cellulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------|--------------------|----------|---------|
|------|-------------|--------------------|----------|---------|

BC

Unknown

TRU

RH

100.0%

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: BC

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| BC-T01 | 0.00 | 368.00 | 368.00 |
| | 0.00 | 368.00 | 368.00 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------|--------------------|----------|---------|
|------|-------------|--------------------|----------|---------|

BE

| | | | |
|---------|-----|----|--------|
| Unknown | TRU | CH | 100.0% |
| Unknown | TRU | RH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: BE

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| BE-T01 | 0.00 | 236.50 | 236.50 |
| | 0.00 | 236.50 | 236.50 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: BE

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| BE-T02 | 0.00 | 7.20 | 7.20 |
| | 0.00 | 7.20 | 7.20 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------------|--------------------|----------|---------|
| ET | Categorized Metal | MTRU | CH | 0.7% |
| | Categorized Metal | TRU | CH | 99.3% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: ET

WASTE PARAMETERS FOR Lead/Cadmium Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| ET-T01 | 2.48 | 0.20 | 2.68 |
| ET-W002 | 0.02 | 0.00 | 0.02 |
| | 2.50 | 0.20 | 2.70 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|-------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| IN | Combustible | MTRU | CH | 100.0% |
| | Filter | MTRU | CH | 100.0% |
| | Filter | MTRU | RH | 100.0% |
| | Graphite | MTRU | CH | 82.2% |
| | Graphite | TRU | CH | 17.8% |
| | Heterogeneous | MTRU | CH | 100.0% |
| | Heterogeneous | MTRU | RH | 57.6% |
| | Heterogeneous | TRU | RH | 42.4% |
| | Inorganic Non-Metal | MTRU | CH | 98.9% |
| | Inorganic Non-Metal | TRU | CH | 1.1% |
| | Salt Waste | MTRU | CH | 65.1% |
| | Salt Waste | TRU | CH | 34.9% |
| | Soils | MTRU | CH | 100.0% |
| | Solidified Inorganics | MTRU | CH | 99.5% |
| | Solidified Inorganics | TRU | CH | 0.5% |
| | Solidified Inorganics | MTRU | RH | 100.0% |
| | Solidified Organics | MTRU | CH | 99.4% |
| | Solidified Organics | TRU | CH | 0.6% |
| | Uncategorized Metal | MTRU | CH | 100.0% |
| | Uncategorized Metal | TRU | CH | 0.0% |
| | Unknown | MTRU | CH | 100.0% |
| | Unknown | MTRU | RH | 60.4% |
| | Unknown | TRU | RH | 39.6% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: IN

| WASTE PARAMETERS FOR Combustible Waste | | | |
|--|----------------------------|----------------|--------------------------|
| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
| IN-W264 | 10.18 | 0.00 | 10.18 |
| IN-W202 | 109.90 | 0.00 | 109.90 |
| IN-W206 | 0.85 | 0.00 | 0.85 |
| IN-W326 | 0.42 | 0.00 | 0.42 |
| IN-W252 | 160.23 | 0.00 | 160.23 |
| IN-W266 | 25.65 | 0.00 | 25.65 |
| IN-W336 | 4.14 | 0.00 | 4.14 |
| IN-W198 | 170.38 | 0.00 | 170.38 |
| IN-W327 | 4.24 | 0.00 | 4.24 |
| IN-W260 | 63.60 | 0.00 | 63.60 |
| IN-W330 | 7.42 | 0.00 | 7.42 |
| | 667.01 | 0.00 | 667.01 |

| Material Parameters (kg/m3) | | Max | Average | Min |
|-----------------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 504.81 | 118.79 | 0.00 |
| | Other Inorganic Materials | 144.23 | 14.18 | 0.00 |
| Organics | Cellulosics | 918.75 | 27.81 | 0.00 |
| | Rubber | 464.42 | 130.69 | 0.00 |
| | Plastics | 1060.10 | 56.72 | 0.00 |
| | | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Filter Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W306.4 | 1039.50 | 0.00 | 1039.50 |
| IN-W214 | 0.64 | 0.00 | 0.64 |
| IN-W207 | 1.48 | 0.00 | 1.48 |
| IN-W206 | 383.08 | 0.00 | 383.08 |
| | 1424.70 | 0.00 | 1424.70 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 500.00 | 238.61 | 0.00 |
| Organics | Cellulosics | 9.62 | 0.00 | 1.20 |
| | Rubber | | | |
| | Plastics | 8.77 | 2.36 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Graphite Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W276 | 391.78 | 0.00 | 391.78 |
| IN-W370 | 66.78 | 0.00 | 66.78 |
| IN-W369 | 12.30 | 0.00 | 12.30 |
| IN-W368 | 3.39 | 0.00 | 3.39 |
| IN-W367 | 4.44 | 0.00 | 4.44 |
| IN-W272 | 1.91 | 0.00 | 1.91 |
| IN-W275 | 6.36 | 0.00 | 6.36 |
| | 486.96 | 0.00 | 486.96 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 1673.08 | 74.45 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W283 | 1.06 | 0.00 | 1.06 |
| IN-W281 | 370.89 | 0.00 | 370.89 |
| IN-W278 | 13.95 | 0.00 | 13.95 |
| IN-W346 | 14.59 | 0.00 | 14.59 |
| IN-W163 | 0.85 | 0.00 | 0.85 |
| IN-W361 | 1.48 | 0.00 | 1.48 |
| IN-W334 | 5.51 | 0.00 | 5.51 |
| IN-W259 | 58.84 | 0.00 | 58.84 |
| IN-W266 | 53.15 | 0.00 | 53.15 |
| IN-W269 | 25.86 | 0.00 | 25.86 |
| IN-W169 | 5774.64 | 0.00 | 5774.64 |
| IN-W199 | 1.27 | 0.00 | 1.27 |
| IN-W306.3 | 3465.00 | 0.00 | 3465.00 |
| IN-W302 | 106.00 | 0.00 | 106.00 |
| IN-W186 | 2695.14 | 0.00 | 2695.14 |
| IN-W187 | 0.21 | 0.00 | 0.21 |
| IN-W291 | 770.09 | 0.00 | 770.09 |
| IN-W189 | 6.15 | 0.00 | 6.15 |
| IN-W172 | 165.57 | 0.00 | 165.57 |
| IN-W225 | 22.20 | 0.00 | 22.20 |
| IN-W171 | 3.59 | 0.00 | 3.59 |
| IN-W203 | 79.89 | 0.00 | 79.89 |
| IN-W204 | 1.91 | 0.00 | 1.91 |
| IN-W170 | 0.42 | 0.00 | 0.42 |
| IN-W289 | 25.36 | 0.00 | 25.36 |
| IN-W285 | 64.90 | 0.00 | 64.90 |
| IN-W329 | 1.27 | 0.00 | 1.27 |
| IN-W271 | 0.42 | 0.00 | 0.42 |
| IN-W197 | 778.34 | 0.00 | 778.34 |
| | 14608.55 | 0.00 | 14608.55 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 41.40 | 0.00 |
| | Aluminum-based Metals/Alloys | 38.22 | 0.48 | 0.00 |
| | Other Metals | 46.63 | 0.16 | 0.00 |
| | Other Inorganic Materials | 3072.12 | 5.20 | 0.00 |
| | Cellulosics | 918.75 | 100.97 | 0.00 |
| Organics | Rubber | 212.02 | 9.92 | 0.00 |
| | Plastics | 1060.10 | 43.83 | 0.00 |
| | Inorganic Matrix | | | |
| Solidified Materials | Organic Matrix | 2.98 | 0.00 | 0.00 |
| Soils | Soil | 144.23 | 0.24 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Inorganic Non-metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W161 | 111.38 | 0.00 | 111.38 |
| IN-W248 | 2.76 | 0.00 | 2.76 |
| IN-W243 | 247.70 | 0.00 | 247.70 |
| IN-W240 | 169.09 | 0.00 | 169.09 |
| IN-W374 | 9.75 | 0.00 | 9.75 |
| IN-W246 | 168.96 | 0.00 | 168.96 |
| IN-W247 | 199.46 | 0.00 | 199.46 |
| IN-W230 | 18.23 | 0.00 | 18.23 |
| | 927.33 | 0.00 | 927.33 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 3072.12 | 332.31 | 0.00 |
| Organics | Cellulosics | 24.04 | 3.95 | 0.00 |
| | Rubber | 1.10 | 0.94 | 0.00 |
| | Plastics | 24.04 | 19.86 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | 144.23 | 0.68 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Salt Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W366 | 1.27 | 0.00 | 1.27 |
| IN-W364 | 0.21 | 0.00 | 0.21 |
| IN-W366 | 4.66 | 0.00 | 4.66 |
| IN-W316 | 0.64 | 0.00 | 0.64 |
| IN-W314 | 1.06 | 0.00 | 1.06 |
| IN-W312 | 3.18 | 0.00 | 3.18 |
| IN-W311 | 6.57 | 0.00 | 6.57 |
| | 17.59 | 0.00 | 17.59 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 14.42 | 5.65 | 0.48 |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 584.33 | 155.51 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Soil

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W263 | 38.04 | 0.00 | 38.04 |
| | 38.04 | 0.00 | 38.04 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | 0.57 | 0.57 | 0.00 |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 0.15 | 0.08 | 0.00 |
| | Other Inorganic Materials | 33.91 | 5.70 | 0.00 |
| Organics | Cellulosics | 0.71 | 0.71 | 0.00 |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | 671.46 | 564.57 | 457.45 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W181 | 9.51 | 0.00 | 9.51 |
| IN-W228 | 1296.80 | 0.00 | 1296.80 |
| IN-W178 | 5.51 | 0.00 | 5.51 |
| IN-W222 | 276.10 | 0.00 | 276.10 |
| IN-W218 | 459.19 | 0.00 | 459.19 |
| IN-W159 | 0.85 | 0.00 | 0.85 |
| IN-W221 | 14.42 | 0.00 | 14.42 |
| IN-W177 | 176.17 | 0.00 | 176.17 |
| IN-W216 | 2531.01 | 0.00 | 2531.01 |
| IN-W367 | 0.42 | 0.00 | 0.42 |
| IN-W368 | 2.54 | 0.00 | 2.54 |
| IN-W168 | 70.81 | 0.00 | 70.81 |
| IN-W306.1 | 1905.70 | 0.00 | 1905.70 |
| IN-W363 | 2.33 | 0.00 | 2.33 |
| IN-W362 | 21.41 | 0.00 | 21.41 |
| IN-W332 | 0.85 | 0.00 | 0.85 |
| IN-W361 | 5.09 | 0.00 | 5.09 |
| IN-W257 | 0.42 | 0.00 | 0.42 |
| IN-W347 | 54.30 | 0.00 | 54.30 |
| IN-W267 | 7.43 | 0.00 | 7.43 |
| IN-W174 | 151.16 | 0.00 | 151.16 |
| IN-W373 | 0.21 | 0.00 | 0.21 |
| | 6992.23 | 0.00 | 6992.23 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 0.32 | 0.00 | 0.00 |
| | Other Inorganic Materials | 528.85 | 0.19 | 0.00 |
| Organics | Cellulosics | 918.75 | 0.00 | 0.00 |
| | Rubber | 212.02 | 0.00 | 0.00 |
| | Plastics | 1060.10 | 0.01 | 0.00 |
| Solidified Materials | Inorganic Matrix | 2012.02 | 718.86 | 0.00 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Organic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W167 | 226.83 | 0.00 | 226.83 |
| IN-W164 | 1.91 | 0.00 | 1.91 |
| IN-W167 | 164.09 | 0.00 | 164.09 |
| IN-W220 | 553.53 | 0.00 | 553.53 |
| IN-W188 | 1.06 | 0.00 | 1.06 |
| IN-W364 | 1.48 | 0.00 | 1.48 |
| IN-W365 | 4.66 | 0.00 | 4.66 |
| IN-W319 | 2.13 | 0.00 | 2.13 |
| IN-W321 | 10.60 | 0.00 | 10.60 |
| IN-W317 | 51.52 | 0.00 | 51.52 |
| | 1017.81 | 0.00 | 1017.81 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2012.02 | 902.46 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W338 | 1.27 | 0.00 | 1.27 |
| IN-W339 | 8.69 | 0.00 | 8.69 |
| IN-W342 | 0.42 | 0.00 | 0.42 |
| IN-W308 | 4139.66 | 0.00 | 4139.66 |
| IN-W360 | 0.21 | 0.00 | 0.21 |
| | 4160.25 | 0.00 | 4160.25 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Unspecified Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W371 | 0.21 | 0.00 | 0.21 |
| IN-W298 | 5243.44 | 0.00 | 5243.44 |
| IN-W288 | 74.60 | 0.00 | 74.60 |
| IN-W287 | 211.85 | 0.00 | 211.85 |
| IN-W300 | 1513.42 | 0.00 | 1513.42 |
| IN-W280 | 35.40 | 0.00 | 35.40 |
| IN-W260 | 36.46 | 0.00 | 36.46 |
| IN-W284 | 443.21 | 0.00 | 443.21 |
| IN-W306.2 | 3118.50 | 0.00 | 3118.50 |
| | 10677.89 | 0.00 | 10677.89 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1528.85 | 254.58 | 0.00 |
| | Aluminum-based Metals/Alloys | 73.68 | 27.67 | 0.00 |
| | Other Metals | 1586.54 | 25.63 | 0.00 |
| | Other Inorganic Materials | 812.50 | 29.36 | 0.00 |
| Organics | Cellulosics | 115.00 | 8.34 | 0.00 |
| | Rubber | 2.42 | 0.01 | 0.00 |
| | Plastics | 67.57 | 14.76 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: IN

WASTE PARAMETERS FOR Filter Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W112 | 20.40 | 204.00 | 224.40 |
| | 20.40 | 204.00 | 224.40 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 429.82 | 429.82 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | 8.77 | 8.77 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W139 | 5.43 | 0.00 | 5.43 |
| IN-W323 | 1.91 | 0.00 | 1.91 |
| IN-W368 | 5.41 | 0.00 | 5.41 |
| | 12.75 | 0.00 | 12.75 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 87.27 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.44 | 0.00 |
| Organics | Cellulosics | 450.95 | 100.72 | 0.00 |
| | Rubber | 17.88 | 6.61 | 0.00 |
| | Plastics | 149.04 | 50.37 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W144 | 2.10 | 0.00 | 2.10 |
| IN-W219 | 9.54 | 0.00 | 9.54 |
| | 11.64 | 0.00 | 11.64 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 2012.02 | 655.36 | 164.90 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| IN-W341 | 0.21 | 0.00 | 0.21 |
| IN-W349 | 6.36 | 0.00 | 6.36 |
| IN-W369 | 0.64 | 0.00 | 0.64 |
| IN-W369 | 0.21 | 0.00 | 0.21 |
| IN-W372 | 3.60 | 0.00 | 3.60 |
| IN-W337 | 0.21 | 0.00 | 0.21 |
| | 11.23 | 0.00 | 11.23 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|---------------|--------------------|----------|---------|
| KA | Heterogeneous | TRU | CH | 100.0% |
| | Heterogeneous | MTRU | RH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: KA

| WASTE PARAMETERS FOR Heterogeneous Waste | | | |
|--|----------------------------|----------------|--------------------------|
| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
| KA-T01 | 2.40 | 0.00 | 2.40 |
| | 2.40 | 0.00 | 2.40 |

| Material Parameters (kg/m3) | | Max | Average | Min |
|-----------------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: KA

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| KA-W016 | 11.23 | 25.20 | 36.43 |
| | 11.23 | 25.20 | 36.43 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.96 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| LA | Categorized Metal | MTRU | CH | 100.0% |
| | Heterogeneous | MTRU | CH | 43.1% |
| | Heterogeneous | TRU | CH | 56.9% |
| | Heterogeneous | TRU | RH | 100.0% |
| | Solidified Inorganics | MTRU | CH | 30.0% |
| | Solidified Inorganics | TRU | CH | 70.0% |
| | Uncategorized Metal | MTRU | CH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: LA

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LA-T03 | 581.50 | 3243.80 | 3825.30 |
| LA-W043 | 1183.60 | 0.00 | 1183.60 |
| LA-W039 | 276.37 | 1433.18 | 1709.55 |
| | 2041.47 | 4676.98 | 6718.45 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 54.76 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.16 | 0.00 |
| | Other Metals | 21.25 | 7.84 | 0.00 |
| | Other Inorganic Materials | 24.04 | 4.32 | 0.00 |
| Organics | Cellulosics | 184.81 | 72.80 | 0.00 |
| | Rubber | 17.88 | 4.64 | 0.00 |
| | Plastics | 149.04 | 39.18 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Lead/Cadmium Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LA-W042 | 158.50 | 0.00 | 158.50 |
| LA-W037 | 2050.73 | 1823.75 | 3874.48 |
| | 2209.23 | 1823.75 | 4032.98 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|-------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LA-W046 | 148.10 | 0.00 | 148.10 |
| LA-W044 | 2868.30 | 0.00 | 2868.30 |
| LA-W041 | 1088.29 | 0.00 | 1088.29 |
| LA-W040 | 183.91 | 229.73 | 413.64 |
| LA-W038 | 15.20 | 127.45 | 142.65 |
| LA-W036 | 115.87 | 2.09 | 117.96 |
| LA-W034 | 110.06 | 18.32 | 128.38 |
| LA-T01 | 1744.50 | 9731.30 | 11475.80 |
| | 6274.23 | 10108.89 | 16383.12 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 1288.27 | 1006.24 | 0.00 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Unspecified Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LA-W035 | 15.05 | 0.00 | 15.05 |
| | 15.05 | 0.00 | 15.05 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 931.37 | 254.42 | 0.00 |
| | Aluminum-based Metals/Alloys | 9.86 | 2.89 | 0.00 |
| | Other Metals | 44.45 | 12.14 | 0.00 |
| | Other Inorganic Materials | 5.29 | 0.88 | 0.00 |
| Organics | Cellulosics | 0.12 | 0.06 | 0.00 |
| | Rubber | 180.31 | 88.71 | 0.00 |
| | Plastics | 0.02 | 0.01 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: LA

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LA-T82 | 78.40 | 930.00 | 1008.40 |
| | 78.40 | 930.00 | 1008.40 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------|--------------------|----------|---------|
|------|-------------|--------------------|----------|---------|

LB

Unknown

TRU

CH

100.0%

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: LB

| WASTE PARAMETERS FOR Unknown Waste | | | |
|------------------------------------|----------------------------|----------------|--------------------------|
| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
| LB-T01 | 0.00 | 2.30 | 2.30 |
| | 0.00 | 2.30 | 2.30 |

| Material Parameters (kg/m3) | | Max | Average | Min |
|-----------------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| LL | Categorized Metal | MTRU | CH | 100.0% |
| | Heterogeneous | TRU | CH | 100.0% |
| | Solidified Inorganics | MTRU | CH | 4.5% |
| | Solidified Inorganics | TRU | CH | 95.5% |
| | Solidified Organics | MTRU | CH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: LL

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LL-T02 | 110.50 | 809.50 | 920.00 |
| | 110.50 | 809.50 | 920.00 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Lead/Cadmium Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LL-W018 | 1.00 | 28.00 | 29.00 |
| | 1.00 | 28.00 | 29.00 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 256.10 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 27.77 | 0.00 |
| | Other Metals | 24.68 | 24.68 | 0.00 |
| | Other Inorganic Materials | 29.28 | 29.28 | 0.00 |
| Organics | Cellulosics | 45.27 | 7.43 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 15.09 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LL-T01 | 110.50 | 809.50 | 920.00 |
| LL-W020 | 1.50 | 42.00 | 43.50 |
| | 112.00 | 851.50 | 963.50 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 1057.69 | 35.81 | 346.15 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Solidified Organic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| LL-W019 | 0.75 | 21.00 | 21.75 |
| | 0.75 | 21.00 | 21.75 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 1134.62 | 923.06 | 350.96 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| MD | Combustible | MTRU | CH | 1.5% |
| | Combustible | TRU | CH | 98.5% |
| | Solidified Inorganics | MTRU | CH | 1.7% |
| | Solidified Inorganics | TRU | CH | 98.3% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: MD

WASTE PARAMETERS FOR Combustible Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| MD-T02 | 56.60 | 27.90 | 84.50 |
| MD-W003 | 1.10 | 0.23 | 1.33 |
| | 57.70 | 28.13 | 85.83 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.14 | 0.00 |
| | Other Inorganic Materials | 144.23 | 0.45 | 0.00 |
| Organics | Cellulosics | 10.10 | 0.09 | 0.00 |
| | Rubber | 464.42 | 4.10 | 0.00 |
| | Plastics | 30.29 | 0.27 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| MD-T01 | 84.80 | 27.90 | 112.70 |
| MD-W002 | 2.00 | 0.00 | 2.00 |
| | 86.80 | 27.90 | 114.70 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 630.29 | 10.99 | 0.00 |
| | Organic Matrix | 1134.62 | 906.96 | 350.96 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------|--------------------|----------|---------|
|------|-------------|--------------------|----------|---------|

MU

Heterogeneous

MTRU

CH

100.0%

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: MU

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| MU-W002 | 0.08 | 0.48 | 0.56 |
| | 0.08 | 0.48 | 0.56 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------|--------------------|----------|---------|
|------|-------------|--------------------|----------|---------|

NT

Heterogeneous

MTRU

CH

100.0%

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: NT

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| NT-W001 | 612.00 | 0.00 | 612.00 |
| | 612.00 | 0.00 | 612.00 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| OR | Heterogeneous | MTRU | CH | 61.3% |
| | Heterogeneous | TRU | CH | 38.7% |
| | Heterogeneous | MTRU | RH | 89.6% |
| | Heterogeneous | TRU | RH | 10.4% |
| | Solidified Inorganics | MTRU | CH | 62.6% |
| | Solidified Inorganics | TRU | CH | 37.4% |
| | Solidified Inorganics | MTRU | RH | 100.0% |
| | Unknown | TRU | RH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: OR

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| OR-T03 | 258.10 | 336.30 | 594.40 |
| OR-W044 | 511.00 | 273.00 | 784.00 |
| OR-W045.2 | 4.70 | 0.00 | 4.70 |
| OR-W047 | 154.50 | 0.00 | 154.50 |
| | 928.30 | 609.30 | 1537.60 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| OR-T01 | 28.70 | 37.30 | 66.00 |
| OR-W042 | 110.00 | 0.00 | 110.00 |
| OR-W045.1 | 0.50 | 0.00 | 0.50 |
| | 139.20 | 37.30 | 176.50 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 36.23 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.00 | 0.00 |
| | Other Metals | 21.25 | 0.01 | 0.00 |
| | Other Inorganic Materials | 24.04 | 0.91 | 0.00 |
| Organics | Cellulosics | 184.81 | 30.49 | 0.00 |
| | Rubber | 17.88 | 2.77 | 0.00 |
| | Plastics | 149.04 | 24.45 | 0.00 |
| Solidified Materials | Inorganic Matrix | 1057.69 | 494.39 | 346.15 |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: OR

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| OR-W040 | 462.00 | 198.00 | 660.00 |
| OR-T04 | 35.90 | 40.30 | 76.20 |
| | 497.90 | 238.30 | 736.20 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| OR-W046 | 605.00 | 180.00 | 785.00 |
| | 605.00 | 180.00 | 785.00 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 1057.69 | 793.77 | 346.15 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| OR-T02 | 43.90 | 49.30 | 93.20 |
| | 43.90 | 49.30 | 93.20 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.15 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 24.04 | 2.41 | 0.00 |
| Organics | Cellulosics | 184.81 | 80.91 | 0.00 |
| | Rubber | 17.88 | 7.36 | 0.00 |
| | Plastics | 149.04 | 64.90 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------|--------------------|----------|---------|
|------|-------------|--------------------|----------|---------|

PA

| | | | |
|-----------------------|------|----|--------|
| Solidified Inorganics | MTRU | CH | 100.0% |
| Unknown | MTRU | CH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: PA

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| PA-W014 | 18.75 | 0.00 | 18.75 |
| | 18.75 | 0.00 | 18.75 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 1057.69 | 793.27 | 346.15 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| PA-W015 | 6.00 | 0.00 | 6.00 |
| | 6.00 | 0.00 | 6.00 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| RF | Categorized Metal | MTRU | CH | 100.0% |
| | Combustible | MTRU | CH | 13.9% |
| | Combustible | TRU | CH | 86.1% |
| | Filter | MTRU | CH | 19.8% |
| | Filter | TRU | CH | 80.2% |
| | Graphite | MTRU | CH | 100.0% |
| | Heterogeneous | MTRU | CH | 13.6% |
| | Heterogeneous | TRU | CH | 86.4% |
| | Inorganic Non-Metal | MTRU | CH | 100.0% |
| | Salt Waste | MTRU | CH | 100.0% |
| | Solidified Inorganics | MTRU | CH | 45.7% |
| | Solidified Inorganics | TRU | CH | 54.3% |
| | Solidified Organics | MTRU | CH | 100.0% |
| | Uncategorized Metal | MTRU | CH | 0.8% |
| | Uncategorized Metal | TRU | CH | 99.2% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: RF

WASTE PARAMETERS FOR Combustible Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W041 | 27.70 | 9.35 | 37.05 |
| RF-W029 | 20.16 | 11.90 | 32.06 |
| RF-T03 | 239.10 | 187.30 | 426.40 |
| | 286.96 | 208.55 | 495.51 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 913.46 | 296.18 | 0.00 |
| | Other Inorganic Materials | 144.23 | 4.02 | 0.00 |
| Organics | Cellulosics | 10.10 | 0.80 | 0.00 |
| | Rubber | 464.42 | 37.01 | 0.00 |
| | Plastics | 30.29 | 2.41 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Filter Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-T06 | 486.40 | 437.10 | 923.50 |
| RF-W067 | 125.43 | 4.65 | 130.08 |
| RF-W066 | 81.23 | 16.70 | 97.93 |
| | 693.06 | 458.45 | 1151.51 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 24.04 | 0.54 | 0.00 |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 1418.27 | 410.05 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | 38.46 | 9.41 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Graphite Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W000 | 0.42 | 0.00 | 0.42 |
| | 0.42 | 0.00 | 0.42 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 1673.08 | 115.38 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W036 | 0.84 | 1.05 | 1.89 |
| RF-T04 | 1255.60 | 1061.50 | 2317.10 |
| RF-W026 | 0.21 | 0.00 | 0.21 |
| RF-W012 | 236.91 | 124.40 | 361.31 |
| | 1493.56 | 1186.95 | 2680.51 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 221.38 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 24.01 | 0.00 |
| | Other Metals | 24.68 | 21.34 | 0.00 |
| | Other Inorganic Materials | 961.54 | 25.69 | 0.00 |
| Organics | Cellulosics | 576.85 | 22.08 | 0.00 |
| | Rubber | 47.84 | 1.50 | 0.00 |
| | Plastics | 84.42 | 17.57 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Inorganic Non-metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W062 | 14.90 | 3.50 | 18.40 |
| RF-W009 | 1.89 | 0.00 | 1.89 |
| RF-W032 | 2.11 | 5.85 | 7.96 |
| RF-W067 | 0.63 | 3.50 | 4.13 |
| RF-W066 | 193.40 | 0.00 | 193.40 |
| | 212.93 | 12.85 | 225.78 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 3072.12 | 495.40 | 0.00 |
| Organics | Cellulosics | 12.02 | 0.32 | 0.00 |
| | Rubber | 1.10 | 0.13 | 0.00 |
| | Plastics | 19.82 | 2.42 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | 144.23 | 0.54 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Lead/Cadmium Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W028 | 3.78 | 3.10 | 6.88 |
| RF-W011 | 73.48 | 44.75 | 118.23 |
| | 77.26 | 47.85 | 125.11 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 242.02 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 26.24 | 0.00 |
| | Other Metals | 913.46 | 39.98 | 0.00 |
| | Other Inorganic Materials | 29.28 | 27.67 | 0.00 |
| Organics | Cellulosics | 45.27 | 7.02 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 14.26 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Salt Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W068 | 754.30 | 0.00 | 754.30 |
| | 754.30 | 0.00 | 754.30 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|-------|
| Inorganics | Iron-based Metals/Alloys | 14.42 | 12.02 | 0.48 |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 567.30 | 216.30 | 48.10 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W038 | 1.26 | 26.25 | 27.51 |
| RF-W040 | 1202.00 | 0.00 | 1202.00 |
| RF-W010 | 143.43 | 14.00 | 157.43 |
| RF-T01 | 1257.90 | 1123.90 | 2381.80 |
| RF-W069 | 460.50 | 0.00 | 460.50 |
| RF-W066 | 0.21 | 0.00 | 0.21 |
| RF-W063 | 36.25 | 13.75 | 50.00 |
| RF-W068 | 61.45 | 0.00 | 61.45 |
| RF-W076 | 69.64 | 0.00 | 69.64 |
| | 3232.64 | 1177.90 | 4410.54 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 2012.02 | 629.02 | 164.90 |
| | Organic Matrix | 1418.27 | 7.50 | 519.23 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Organic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W013 | 111.30 | 9.50 | 120.80 |
| RF-W063 | 12.80 | 0.00 | 12.80 |
| | 124.10 | 9.50 | 133.60 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2012.02 | 894.52 | 164.90 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Unspecified Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RF-W037 | 5.46 | 0.00 | 5.46 |
| RF-T02 | 362.25 | 312.20 | 674.45 |
| | 367.71 | 312.20 | 679.91 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 317.31 | 83.65 | 0.00 |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 1586.54 | 195.19 | 0.00 |
| | Other Inorganic Materials | 19.23 | 19.23 | 0.00 |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| RL | Categorized Metal | MTRU | CH | 100.0% |
| | Heterogeneous | MTRU | CH | 2.4% |
| | Heterogeneous | TRU | CH | 97.6% |
| | Heterogeneous | TRU | RH | 100.0% |
| | Inorganic Non-Metal | TRU | RH | 100.0% |
| | Soils | MTRU | CH | 3.7% |
| | Soils | TRU | CH | 96.3% |
| | Solidified Inorganics | MTRU | CH | 2.2% |
| | Solidified Inorganics | TRU | CH | 97.8% |
| | Solidified Inorganics | TRU | RH | 100.0% |
| | Solidified Organics | MTRU | CH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: RL

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RL-W077 | 4.64 | 3.17 | 7.81 |
| RL-T03 | 8907.00 | 2907.40 | 11814.40 |
| RL-W072 | 7.98 | 5.47 | 13.45 |
| RL-W074 | 30.45 | 20.79 | 51.24 |
| RL-W076 | 4.82 | 3.28 | 8.10 |
| RL-W081 | 0.42 | 0.29 | 0.71 |
| RL-W086 | 5.32 | 3.65 | 8.97 |
| RL-W085 | 2.10 | 1.44 | 3.54 |
| RL-W080 | 26.91 | 1.94 | 28.85 |
| RL-W101 | 2.10 | 169.33 | 171.43 |
| | 8991.74 | 3116.76 | 12108.50 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 432.69 | 1.00 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 0.04 | 0.00 |
| | Other Metals | 913.46 | 0.76 | 0.00 |
| | Other Inorganic Materials | 290.75 | 1.42 | 0.00 |
| | Cellulosics | 576.85 | 114.76 | 0.00 |
| Organics | Rubber | 96.26 | 11.05 | 0.00 |
| | Plastics | 155.00 | 33.12 | 0.00 |
| | Inorganic Matrix | | | |
| Solidified Materials | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Lead/Cadmium Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RL-W083 | 0.57 | 0.04 | 0.61 |
| RL-W078 | 0.63 | 33.43 | 34.06 |
| RL-W079 | 0.42 | 22.30 | 22.72 |
| RL-W082 | 0.21 | 0.02 | 0.23 |
| | 1.83 | 55.79 | 57.62 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 256.10 | 252.37 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 27.37 | 0.00 |
| | Other Metals | 913.46 | 28.74 | 0.00 |
| | Other Inorganic Materials | 29.28 | 28.85 | 0.00 |
| Organics | Cellulosics | 45.27 | 7.32 | 0.00 |
| | Rubber | | | |
| | Plastics | 67.57 | 14.87 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Soil

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RL-T02 | 4586.80 | 2907.40 | 7494.20 |
| RL-W133 | 11.97 | 274.00 | 285.97 |
| | 4698.77 | 3181.40 | 7780.17 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 0.57 | 0.02 | 0.00 |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 0.15 | 0.00 | 0.00 |
| | Other Inorganic Materials | 3072.12 | 562.87 | 0.00 |
| Organics | Cellulosics | 12.02 | 11.60 | 0.00 |
| | Rubber | | | |
| | Plastics | 12.02 | 11.58 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | 671.46 | 83.27 | 0.00 |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RL-W135 | 2.02 | 107.00 | 109.02 |
| RL-T01 | 1987.00 | 2907.40 | 4894.40 |
| | 1989.02 | 3014.40 | 5003.42 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 96.57 | 0.00 |
| | Aluminum-based Metals/Alloys | 1.63 | 0.01 | 0.00 |
| | Other Metals | 21.25 | 0.03 | 0.00 |
| | Other Inorganic Materials | 101.11 | 3.42 | 0.00 |
| Organics | Cellulosics | 184.81 | 79.16 | 0.00 |
| | Rubber | 96.26 | 7.35 | 0.00 |
| | Plastics | 155.00 | 63.85 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Solidified Organic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RL-W134 | 0.42 | 22.06 | 22.48 |
| | 0.42 | 22.06 | 22.48 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 75.00 | 75.00 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: RL

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RL-T06 | 0.00 | 1227.40 | 1227.40 |
| RL-T04 | 201.00 | 1227.40 | 1428.40 |
| | 201.00 | 2454.80 | 2655.80 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|------|
| Inorganics | Iron-based Metals/Alloys | 1716.35 | 170.08 | 0.00 |
| | Aluminum-based Metals/Alloys | 27.77 | 12.84 | 0.00 |
| | Other Metals | 24.68 | 11.42 | 0.00 |
| | Other Inorganic Materials | 29.28 | 14.83 | 0.00 |
| Organics | Cellulosics | 184.81 | 46.95 | 0.00 |
| | Rubber | 17.88 | 3.96 | 0.00 |
| | Plastics | 149.04 | 41.88 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 2.98 | 0.01 | 0.00 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

WASTE PARAMETERS FOR Inorganic Non-metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| RL-T07 | 0.00 | 1227.40 | 1227.40 |
| | 0.00 | 1227.40 | 1227.40 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 572.12 | 572.12 | 0.00 |
| Organics | Cellulosics | 24.04 | 24.04 | 0.00 |
| | Rubber | | | |
| | Plastics | 24.04 | 24.04 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR - Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|------------------------|------------------------------------|-----------------------|----------------------------------|
| RL-T04 | 0.00 | 1227.40 | 1227.40 |
| | 0.00 | 1227.40 | 1227.40 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|-----------------------------|------------------------------|------------|----------------|------------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 290.75 | 290.75 | 0.00 |
| Organics | Cellulosics | 1.10 | 1.10 | 0.00 |
| | Rubber | 1.10 | 1.10 | 0.00 |
| | Plastics | 19.82 | 19.82 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-------------|--------------------|----------|---------|
| SA | Unknown | TRU | CH | 100.0% |
| | Unknown | MTRU | RH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: SA

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| SA-T01 | 0.00 | 46.00 | 46.00 |
| | 0.00 | 46.00 | 46.00 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: SA

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| SA-W134 | 0.95 | 0.00 | 0.95 |
| | 0.95 | 0.00 | 0.95 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| SR | Categorized Metal | TRU | CH | 100.0% |
| | Heterogeneous | MTRU | CH | 100.0% |
| | Solidified Inorganics | MTRU | CH | 100.0% |
| | Solidified Organics | MTRU | CH | 1.0% |
| | Solidified Organics | TRU | CH | 99.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: SR

WASTE PARAMETERS FOR Combustible Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| SR-T02 | 4747.10 | 2986.60 | 7733.70 |
| | 4747.10 | 2986.60 | 7733.70 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 4.23 | 1.10 | 0.00 |
| Organics | Cellulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Heterogeneous Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| SR-W027 | 4955.50 | 0.00 | 4955.50 |
| SR-W026 | 66.90 | 5813.00 | 5879.90 |
| | 6022.40 | 5813.00 | 10835.40 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | 4.23 | 1.10 | 0.00 |
| Organics | Cellulosics | 576.85 | 115.83 | 0.00 |
| | Rubber | 47.84 | 11.11 | 0.00 |
| | Plastics | 84.42 | 33.32 | 0.00 |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| SR-W003 | 0.02 | 0.00 | 0.02 |
| | 0.02 | 0.00 | 0.02 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Solidified Organic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| SR-W006 | 0.03 | 0.00 | 0.03 |
| SR-T01 | 198.20 | 124.40 | 322.60 |
| SR-W044 | 3.25 | 0.00 | 3.25 |
| | 201.48 | 124.40 | 325.88 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | 1134.62 | 323.08 | 350.96 |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

Volume % of Non Mixed and Mixed TRU Waste by Matrix Name for CH and RH Wastes

| Site | Matrix Name | Mixed or Non Mixed | CH or RH | Percent |
|------|-----------------------|--------------------|----------|---------|
| WV | Categorized Metal | MTRU | CH | 7.1% |
| | Categorized Metal | TRU | CH | 92.9% |
| | Solidified Inorganics | MTRU | CH | 1.1% |
| | Solidified Inorganics | TRU | CH | 98.9% |
| | Unknown | TRU | RH | 100.0% |

SITE-SPECIFIC CONTACT HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: WV

WASTE PARAMETERS FOR Lead/Cadmium Metal Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| WV-T02 | 28.70 | 0.00 | 28.70 |
| WV-W024 | 2.19 | 0.00 | 2.19 |
| | 30.89 | 0.00 | 30.89 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|--------|---------|-------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | 913.46 | 302.88 | 76.92 |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Inorganic Matrix | | | |
| Solidified Materials | Organic Matrix | | | |
| | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

WASTE PARAMETERS FOR Solidified Inorganic Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| WV-W041 | 0.10 | 0.10 | 0.21 |
| WV-T01 | 19.20 | 0.00 | 19.20 |
| | 19.30 | 0.10 | 19.41 |

Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|---------|---------|--------|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| | Inorganic Matrix | 2012.02 | 625.00 | 164.90 |
| Solidified Materials | Organic Matrix | | | |
| | Soil | | | |
| Packaging Materials | Steel | | 141.83 | |
| | Plastic | | 39.42 | |

SITE-SPECIFIC REMOTE HANDLED WASTE PROFILES (contd)

30-Jun-94

DOE TRU SITE: WV

WASTE PARAMETERS FOR Unknown Waste

| WASTE STREAM ID | RETRIEVABLY STORED (m3) | PROJECTED (m3) | TOTAL PER STREAM (m3) |
|-----------------|----------------------------|----------------|--------------------------|
| WV-T03 | 499.20 | 0.00 | 499.20 |
| | 499.20 | 0.00 | 499.20 |


Material Parameters (kg/m3)

| | | Max | Average | Min |
|----------------------|------------------------------|-----|---------|-----|
| Inorganics | Iron-based Metals/Alloys | | | |
| | Aluminum-based Metals/Alloys | | | |
| | Other Metals | | | |
| | Other Inorganic Materials | | | |
| Organics | Cellulosics | | | |
| | Rubber | | | |
| | Plastics | | | |
| Solidified Materials | Inorganic Matrix | | | |
| | Organic Matrix | | | |
| Soils | Soil | | | |
| Packaging Materials | Steel | | 2600.00 | |
| | Lead | | 460.00 | |

APPENDIX G

Sandia National Laboratories

Managed and Operated by Sandia Corporation
a subsidiary of Martin Marietta Corporation
Albuquerque, New Mexico 87185-1328

date : June 24, 1994
to : P.E. Drez, [Drez Environmental Associates]
from :  L. C. Sanchez, Org 6342, MS-1328 (505)848-0685
subject : Comments on May 9, 1994 Communications

The following is a synopsis of communications that took place on May 9, 1994 [1]. In those communications you requested responses to the following two questions:

- [1] In the radionuclide table (Table 3-3.1) located in SAND92-0700/3, there are a series of radionuclide inventories listed by isotope. This is the list that we have to replace in the WTWBIR. On the list, I thought that only isotopes with half-lives greater than 20 years were listed, but for instance, Cf-252 is listed which has a half-life of 2.64 years. Is this because it decays to Cm-248, which has a long half life? There are other isotopes which have half-lives greater than 20 years which are not reported in Table 3-3.1. Is this because of their overall low curie content in the inventory? If so what is the "cut-off" used as to whether an isotope appears in the table?
- [2] One of the strong comments by Karen Knudtsen was that we need to put in a strong justification for the different waste parameters that will be documented in the inventory. Can one or both of you work with the PA and model development people (e.g., Larry Brush) and fill in the table attached?

Per your request [1] I had talked with several people to get responses to your two questions. The responses obtained on May 9, 1994 and relayed to you were [2]:

- [1] In talking to Andy Peterson, he said that the table of radionuclides (Table 3.3-1) is a synopsis of all the available data from the sites. Any radionuclides not reported were probably due to the sites: 1) not identifying them in the waste, 2) they had been of undetectable quantities, etc. Also, the decay chains of interest (Figure 3.3-5) were those identified by SNL scientists as being the chains of interest.
- [2] The matrix which identifies the justification of waste parameters was reviewed by (see attachment):

| Matrix Column | Reviewer |
|-------------------|--|
| Current Models | Palmer Vaughn Andy Peterson Jim Schreiber Barry Butcher |
| Under Development | Larry Brush |
| Possible Future | Larry Brush |
| Overall | (none) |

REFERENCES

- [1] Informal Communications from P.E. Drez [Drez Environmental Associates] to R.D. Waters (Dept. 6622) and L.C. Sanchez (Dept. 6342) dated May 9, 1994.
- [2] Informal Communications from L.C. Sanchez (Dept. 6342) to P.E. Drez [Drez Environmental Associates] dated May 9, 1994.

· LCS:6342:lcs/(94-2029)

Copy to (with attachment):

MS-1328, D.R. Anderson [Dept. 6342]
MS-1328, M.G. Marietta [Dept. 6342]
MS-1328, J.D. Schreiber [Dept. 6342]
MS-1328, P. Vaughn [Dept. 6342]
MS-1341, B.M. Butcher [Dept. 6345]
MS-1341, L.H. Brush [Dept. 6348]
MS-1341, A.C. Peterson [Dept. 6348]
MS-1328, Day File [Dept. 6342]
MS-1328, L.C. Sanchez [Dept. 6342]

Justification of Waste Parameters

| Waste Parameter | Input Variable in <u>Current</u> PA Models | | Input Variable in PA Model <u>Under Development</u> | Input Variable in Possible <u>Future</u> PA Model | Remaining Matrix Variable to Provide Overall Waste Form Information |
|----------------------------------|--|---|---|---|---|
| Iron-Based Metals and Alloys | X | X | X | X | |
| Aluminum-Based Metals and Alloys | | X | X | X | |
| Other Metals | | X | | X | |
| Other Inorganics | | X | X | X | |
| Cellulosics | X | X | X | X | |
| Plastics | | X | X | X | |
| Rubbers | 1/2 | X | X | X | |
| Solidified Inorganics | | X | X | X | |
| Solidified Organics Matrix | | X | X | X | |
| Soils | | X | ? | ? | |
| | | | | | |

GAS GENERATION
 ↑
 MECHANICAL CHARACTERISTICS
 ↑

APPENDIX H

MWIR WASTE STREAM QUESTIONNAIRE

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

1. General Site Information

1.1 Location

A. Site ID: RF
B. Site Name: Rocky Flats Plant
C. DOE Field Office: Rocky Flats
D. Data Base WS ID: RF-W012

1.2 Points of Contact

A. Primary: Bob Griffis
Address: Rocky Flats Plant
 P.O. Box 464, Bldg. T130C
 Golden, Colorado 80402-0464

Phone: 303-966-4934
Fax: 303-966-6406
E-Mail:

B. Alternate: Scott Anderson
Address:

Phone: 303-273-6164
Fax: 303-273-6245
E-Mail:

2. Waste Stream Description and Source

2.1 Waste Stream Identifiers

A. Waste stream site ID: None

B. Waste stream IMWIR ID: 118

C. Waste stream name: Combustibles/TRM

D. Previous waste stream IDs and names:

| WS ID | Waste Stream Name |
|---------|-------------------|
| IDC 330 | Combustibles, Dry |
| IDC 336 | Combustibles Wet |

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

2.1 Waste Stream Identifiers (continued)

D. Previous waste stream IDs and names (continued):

[illegible]

RF-W012

Combustibles/TRM

1 Waste Stream Identifiers (continued)**E. Ignore this waste (IMWIR waste that is being revised):** No

If yes..

then complete the following and ignore the remain

F. IDs for the newly defined waste streams:

| | | | |
|--|--|--|--|
| | | | |
|--|--|--|--|

2.2 Waste Stream Description

IDC NO. 330, 336, 337, 831, 832, 833. The waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills, involving hazardous solvents. The bulk of these wastes are packaged in 55-gallon drums with one rigid polyethylene liner and several bag liners. In addition, the waste may be repackaged into DOT 7A, Type A metal boxes which are lined with a fiberboard and PVC liner. Inventory data include mixed residues within the same IDCs.

IDC 325 This IDC is a combination of any solid waste IDCs, i.e., combustibles, metal, glass, construction rubble, etc. This IDC may be used for waste originated outside the PA only, with the exception of the waste generated during Engineered and Maintenance non-routine work, i.e., Stripout Activity in Bldg 881 and it may not be used anytime for waste originated in Bldg 886. Mixed Waste.

IDC 330 no description available.

IDC 336 - Wet combustibles are paper, cloth, etc., which contain a discernible amount of moisture. Must be drained or wrung out prior to packaging to prevent an accumulation of free liquid. This IDC changes to 822, 832, 852, or 862 at the point of assay.

IDC831 - Dry combustibles such as paper, cloth, wood, etc. This waste has been identified as being low level mixed waste.

IDC 832 - Wet combustibles are paper, cloth, etc., which contain a discernible amount of moisture. these must be drained or wrung prior to packaging to prevent accumulation of free liquid.

2.3 Generation Site**A. Generation site name:** Rocky Flats Plant**B. Buildings and areas where waste generation activities are located:**

Numerous locations throughout RFP.

RF-W012

Combustibles/TRM

2.2 Waste Stream Description (continued)

~~IDC 833 - PVC sheeting, poly bottles, supplied air suits, and other plastics. This waste has been identified as being a low level mixed waste.~~

This waste consists of rags, paper, cloth, coveralls, plastics, rubber, and wood from the cleanup of spills and equipment.

Halogenated organics are used at RFP for degreasing. Methylene chloride is used for paint removal. Ignitables are characteristic of the solvents and/or filter media. The combustibles can be used for cleaning with these organics or used for the cleanup of spent solvents. Not all of the waste in the IDCs listed in the previous section contain solvents, but the nonsolvent waste is not segregated from the solvent bearing waste at this time. Therefore, all containers of waste with the above-mentioned IDCs are considered RCRA waste and LDR. No TCLP analysis of these wastes has been conducted at this time.

RF-W012

Combustibles/TRM

2 Generation Site (continued)**C. Operations performed in buildings:****D. Process generating waste:**

This waste consists of rags, paper, cloth, coveralls, plastic, rubber, and wood. The waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills. The bulk of these wastes are packaged in 55-gallon drums with one rigid polyethylene liner and several bag liners. In addition, the waste may be packaged in DOT 7A Type A metal boxes which are lined with a fiberboard liner and a PVC liner or standard TRUPACT-II container. The containers are then assayed and transferred to interim status storage areas. These wastes have been shipped to the INEL for storage in the past.

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

2.3 Generation Site (continued)

E. Source classification:

| Applicable Sources of the Waste Stream | | | |
|--|-------------------------------|---------------------------|-----|
| Research and Development | Yes | Environmental Restoration | No |
| Operations Waste | Yes | Buried | No |
| Residues | Yes | Treatment of Waste | No |
| Retrieveably Stored Waste | No | Moratorium Waste | No |
| Decontamination and Decommissioning | Yes | Maintenance | Yes |
| EPA Source Code | A19 | | |
| EPA Waste Source | Other cleaning and degreasing | | |

2.4 Reclassification

A. Waste type: MTRU

B. Reclassified waste (< 100nCi/g of TRU): No
UNKNOWN

C. If waste is MTRU..

D. Reclassification..

it could be reclassified:
or potential for reclassification:

Rocky Flats assays wastes to determine waste type instead of relying on process knowledge or historical data. For this reason, the potential for reclassification has not been analyzed.

RF-W012

Combustibles/TRM

Radiation Acceptance

3.1 Waste Radiation Characteristics

A. Handling: CH

B. Transuranic alpha emitter: >100

Units: nCi/g

C. Uranium/thorium alpha level: NC

Units:

D. Beta/gamma dose rate at the surface: NC

Units:

E. Beta/gamma dose rate 1m from the surface: NC

Units:

F. Surface neutron activity: NC

Units:

3.2 Radionuclides

A. Estimate of the uncertainty of radioactive concentration value and description of methods used to measure radioactive elements:

Concentrations based upon non-destructive analysis of waste packages. Process knowledge is also applied. The purpose of this assay is to determine whether the waste is above or below TRU threshold of 100 nCi per gram. Pu and U and their decay daughters, the only isotopes known to be used at RFP, are in the wastes.

Measurement Method: Passive-Active Counter / Crate Counter

Combustibles/TRM

B. Last radionuclide analysis date:

C. Standard mix name: Weapons Grade Plutonium

D. Total activity level of the waste (nCi/g): NC

E. Radionuclides:

[illegible]

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

Secondary Waste Materials

A. Radionuclide distribution for this waste stream includes additional waste materials that are occasionally mixed in or included: No

B. Percent of radionuclide activity this additional waste contributes:

C. Secondary radionuclides:

[illegible]

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

3.4 Radionuclide Contamination Accessibility

- A. External surface only: No
B. Internal surface only: No
C. Contamination dispersed through matrix: Yes

4. Matrix

4.1 Overall Composite Matrix

- A. Waste matrix code: 5440
B. Waste matrix name: Predominantly Combustible Debris

4.2 Specific Matrix Constituents

- A. Percent is by weight or volume:
B. Sum: 0
C. Waste matrix type:

| WM Code | Matrices/Constituent Name | Average % | Lower Limit % | Upper Limit % |
|---------|--------------------------------|-----------|---------------|---------------|
| 5330 | Paper and rags | UNK | | |
| 5320 | Wood Debris | UNK | | |
| 5390 | Non-halogenated organic solids | UNK | | |
| 5310 | Plastics and rubber | UNK | | |
| 5190 | Metals | UNK | | |
| 5220 | Glass | UNK | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

3 Cation/Anion

A. Cations and anions present in the waste and..

if available

Not applicable

4.4 Previous Treatment

A. Waste stream has been super-compacted: No

B. Waste stream has been shredded: No

C. Waste stream has been immobilized at the container level: No

D. Waste stream has been immobilized in sizes less than container level: No

E. Waste stream has been treated: No

If yes..

treatment was for LDR:

F. Waste stream can be removed easily from its container: Yes

4.5 Other Waste Characteristics (for Aqueous Streams Only)

A. Total dissolved solids (%):

B. Total suspended solids (%):

C. Total organic content (%):

D. pH:

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

4.5 Other Waste Characteristics (continued)

E. Other waste characteristics:

No information available

5. Regulated Characteristics and Contaminants

5.1 Characterization Basis

A. Uncertainty of the contamination concentration value:

A- Process knowledge based upon general knowledge of waste type or source.

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

..1 Characterization Basis (continued)

- B. Sampling program was a statistical program that was based on random sampling: No
 C. Concerning waste streams for which sampling and analysis has been initiated..
 approximate percentage of waste containers sampled:
 D. Total number of samples that have been analyzed:

5.2 Contaminant List

| EPA Code | Contaminant Name | Typical | Lower Limit | Upper Limit | Unit | Basis | TCLP Level |
|----------|----------------------|---------|-------------|-------------|------|-------|------------|
| F001 | 1.. | | | 1.. | | A | |
| F001 | Carbon Tetrachloride | | | | | A | |
| F002 | Freon | | | | | A | |
| F002 | Methylene Chloride | | | | | A | |
| F005A | Toluene | | | | | A | |
| F005A | Methyl ethyl ketone | | | | | A | |

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

5.3 Plating Contaminants for F006 - F009 Wastes

[illegible]

RF-W012

Combustibles/TRM

4 PCBs

- A. PCB concentration (ppm): 0
 B. Portion of waste containing PCBs (%):
 C. If not 100%..

the PCBs are segregated and can be treated

5.5 Asbestos

- A. Waste stream contains asbestos: No
 B. For known or potential presence of asbestos...
 for determining the quantity present:

the conditi

| |
|--|
| |
|--|

6. Waste Inventory/Generation

6.1 Date of Last Inventory: 01/04/93

6.2 Stored Waste

A. Net stored waste information: *

| | Volume (m3) | Mass (kg) |
|---|-------------|-----------|
| Net stored non-LDR waste as of 12/31/92 | 0.0 | 0.0 |
| Numeric value is present | Yes | Yes |
| Numeric value | 0.00000 | 0.00000 |
| Units | | |
| Net stored LDR waste as of 12/31/92 | UNK | UNK |
| Numeric value is present | No | No |
| Numeric value | 0.00000 | 0.00000 |
| Units | | |

* Note that rows in italics were added to facilitate processing numeric values.

RF-W012

Combustibles/TRM

6.2 Stored Waste (continued)

A. Net stored waste information (continued): *

| | Volume (m3) | Mass (kg) |
|--|-------------|-----------|
| Net stored non-LDR waste as of other date: | | |
| Numeric value is present | No | No |
| Numeric value | 0.00000 | 0.00000 |
| Units | | |
| Net stored LDR waste as of other date: | | |
| Numeric value is present | No | No |
| Numeric value | 0.00000 | 0.00000 |
| Units | | |

B. Gross stored waste information: *

| | Volume (m3) | Mass (kg) |
|--|-------------|-----------|
| Gross stored non-LDR waste as of 12/31/92 | 0.0 | 0.0 |
| Numeric value is present | Yes | Yes |
| Numeric value | 0.00000 | 0.00000 |
| Units | | |
| Gross stored LDR waste as of 12/31/92 | 267.91 | UNK |
| Numeric value is present | Yes | No |
| Numeric value | 267.91000 | 0.00000 |
| Units | | |
| Gross stored non-LDR waste as of other date: | | |
| Numeric value is present | No | No |
| Numeric value | 0.00000 | 0.00000 |
| Units | | |

* Note that rows in italics were added to facilitate processing numeric values.

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

Stored Waste (continued)

B. Gross stored waste information (continued): *

| | Volume (m3) | Mass (kg) |
|--|-------------|-----------|
| Gross stored LDR waste as of other date: | | |
| Numeric value is present | No | No |
| Numeric value | 0.00000 | 0.00000 |
| Units | | |

C. Basis for determining LDR storage prohibition status:

Net and gross weight data are not available for all container types.

RFP has assumed this waste to be LDR based on process knowledge characterization, and one sample analyzed for volatiles in 1988. RFP currently manages all of its mixed waste as LDR storage prohibited, independent of its generation date.

1. Variability surrounding fullness of containers precludes a meaningful computation of density.

2. Basis for determining LDR storage prohibition status is based primarily on process knowledge. Analytical data are limited due to the lack of capacity to perform Toxicity Characterization Leaching Procedure (TCLP) on mixed waste at the Rocky Flats Plant.

** Note that rows in italics were added to facilitate processing numeric values.*

3. Total inventory volume for purpose of national summary (m3): 267.910000

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

6.3 Projected Waste Generation

A. Expected generation termination date:

B. Waste projections: *

| | Volume (m3) | Mass (kg) |
|-----------------------------|-------------|-----------|
| Projected 1993 generation | 24.88 | UNK |
| Numeric value is present | Yes | No |
| Numeric value | 24.88000 | 0.00000 |
| Numeric modifier (GT/LT/AP) | | |
| Lower limit | 0.00000 | 0.00000 |
| Upper limit | 0.00000 | 0.00000 |
| Units | | |
| Projected 1994 generation | 24.88 | UNK |
| Numeric value is present | Yes | No |
| Numeric value | 24.88000 | 0.00000 |
| Numeric modifier (GT/LT/AP) | | |
| Lower limit | 0.00000 | 0.00000 |
| Upper limit | 0.00000 | 0.00000 |
| Units | | |
| Projected 1995 generation | 24.88 | UNK |
| Numeric value is present | Yes | No |
| Numeric value | 24.88000 | 0.00000 |
| Numeric modifier (GT/LT/AP) | | |
| Lower limit | 0.00000 | 0.00000 |
| Upper limit | 0.00000 | 0.00000 |
| Units | | |

* Note that rows in italics were added to facilitate processing numeric values.

RF-W012

Combustibles/TRM

Projected Waste Generation (continued) *

| | Volume (m3) | Mass (kg) |
|--|-------------|-----------|
| Projected 1996 generation | 24.88 | UNK |
| Numeric value is present | Yes | No |
| Numeric value | 24.88000 | 0.00000 |
| Numeric modifier (GT/LT/AP) | | |
| Lower limit | 0.00000 | 0.00000 |
| Upper limit | 0.00000 | 0.00000 |
| Units | | |
| Projected 1997 generation | 24.88 | UNK |
| Numeric value is present | Yes | No |
| Numeric value | 24.88000 | 0.00000 |
| Numeric modifier (GT/LT/AP) | | |
| Lower limit | 0.00000 | 0.00000 |
| Upper limit | 0.00000 | 0.00000 |
| Units | | |
| Projected 1998 through 2002 generation | UNK | UNK |
| Numeric value is present | No | No |
| Numeric value | 0.00000 | 0.00000 |
| Numeric modifier (GT/LT/AP) | | |
| Lower limit | 0.00000 | 0.00000 |
| Upper limit | 0.00000 | 0.00000 |
| Units | | |

* Note that rows in italics were added to facilitate processing numeric values.

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

6.3 Projected Waste Generation (continued) *

| | Volume (m3) | Mass (kg) |
|--|-------------|-----------|
| Projected 2003 through 2022 generation | UNK | UNK |
| Numeric value is present | No | No |
| Numeric value | 0.00000 | 0.00000 |
| Numeric modifier (GT/LT/AP) | | |
| Lower limit | 0.00000 | 0.00000 |
| Upper limit | 0.00000 | 0.00000 |
| Units | | |

7. Waste Packaging

This waste is stored in 55 gallon carbon steel drums with one rigid polyethylene liner and several bag liners and TRUPACT II Containers.

* Note that rows in italics were added to facilitate processing numeric values.

Combustibles/TRM

1 Type of Storage

[illegible]

RF-W012

Combustibles/TRM

7.2 Readiness of Existing TRU Waste for Shipping and Emplacement in WIPP

A. Percentage of existing TRU waste containers meeting the Operations and Safety (O&S) criteria in the WIPP Waste Acceptance Criteria (WAC).. Revision

___ % 55 gallon drums
___ % boxes
76 % Other: total

B. Treatment needed:

Repackaging to meet decay heat limit; completion of data package.

C. Percentage of existing waste containers that would be expected to meet the TRUPACT-II TRAMPAC requirements in the WIPP WAC.. Revision 4

___ % 55 gallon drums
___ % boxes
76 % Other: total

D. Waste stream is listed in the WIPP TRUPACT-II Content Code (TRUCON) document: Yes

E. TRUCON code: 116

F. Head space gas has been sampled from one or more waste containers: UNKNOWN

RF-W012

Combustibles/TRM

Waste Stream Management

8.1 Current Management

A. Current management:

C. Generated and Stored Only

B. Treatment or disposal rate for the waste stream expressed in volume per year:

* *Units (m³/yr):*

C. Treatment or disposal rate for the waste stream expressed in mass per year:

* *Units (kg/yr):*

8.2 Planned Management for LDRs

A. Future management of waste stream for complying with LDR treatment standards:

F. Planned to send to WIPP (TRU only).

* *Note that items in italics were added to facilitate processing numeric values.*

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

8.3 Treatment Technology

A. Technologies to be applied:

| |
|------------------------------|
| Repackaging to meet WIPP WAC |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |

RF-W012

Combustibles/TRM

Treatment Technology (continued)

B. Assigned treatment facility name:

CTMP Treatment System Path F

C. Assigned treatment system name:

CTMP Treatment System Path F

Assigned treatment system ID:

D. Facility agrees to treat: UNKNOWN

E. Waste in assigned facility permit: UNKNOWN

F. Waste in future facility permit: UNKNOWN

G. Other pre-treatment requirements or treatment concerns:

Treatment of most mixed transuranic waste to meet LDR treatment standards is not applicable because DOE plans to ship these wastes to the Waste Isolation Pilot Plant (WIPP), pending issuance of a No-Migration Determination of the operational phase. Pretreatment to meet the WIPP Waste Acceptance Criteria may be required.

RF-W012

Combustibles/TRM

8.4 Technology Status

A. Status of the technology to treat this waste:

C. Technology exists but needs modification

B. Identified technologies:

Repackaging to meet WIPP WAC

RF-W012

Combustibles/TRM

Technology Status (continued)

C. Need..

reason and status for modification:

Testing is needed to adapt technology to site specific compositions and radionuclides.

D. Basis for the technology status:

The existing technologies are not directly suitable for use with radioactive mixed wastes and require development work to bridge the gap between non-radioactive and radioactive streams.

| | |
|---------|------------------|
| RF-W012 | Combustibles/TRM |
|---------|------------------|

8.4 Technology Status (continued)

E. Technology development associated with treatment of waste stream:

Technology exists. Needs modification or verification for application to DOE waste streams.

F. Relevant TTP..

ADS..

TTP #: RF142001 Subtask 02 ADS #: 3822 TDD # : 3822.F17 (THERMAL) / #3822.F21 (NON-THERMAL)

RF-W012

Combustibles/TRM

Treatment Concerns

A. Special or unique treatment or facility concerns that this waste stream presents and that may impact the use of standard treatment methods:

The radioactive nature of the waste stream requires that the candidate technologies be examined to identify necessary process or equipment modifications dictated by the radioactivity.

Regulatory Concerns

9.1 Compliance Agreements

A. For waste covered by an EPA or state LDR compliance agreement.. and when it was issued:

FFCA II - May 10,1991

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Combustibles/TRM

9.2 Applicable Regulations

A. RCRA: Yes
B. State hazardous waste: Yes
C. TSCA: No
D. CERCLA: No

9.3 Waste meets LDR treatment standard: No

A. Basis for determination:

Process knowledge

9.4 Delisting

A. Waste stream has been delisted or is being considered for delisting: No
B. A petition has been submitted:
C. Date of submission:
D. Date of approval:

9.5 Waste Minimization Activities

A. Applicable activities:

A. Good operating practices
B. Technology changes
F. Changes in operating status

B. Appropriate waste minimization codes:

W13

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Combustibles/TRM

Waste Minimization Activities (continued)

C. Description of waste minimization activities:

10. Storage Location

A. Current storage location:

Building 776, RCRA Unit 11 & 69
Building 374, RCRA Unit 19
Building 664, RCRA Unit 20 and RTR
Building 569, RCRA Unit 59
Building 371, RCRA Unit 63
Building 771, RCRA Unit 665 & 90.75

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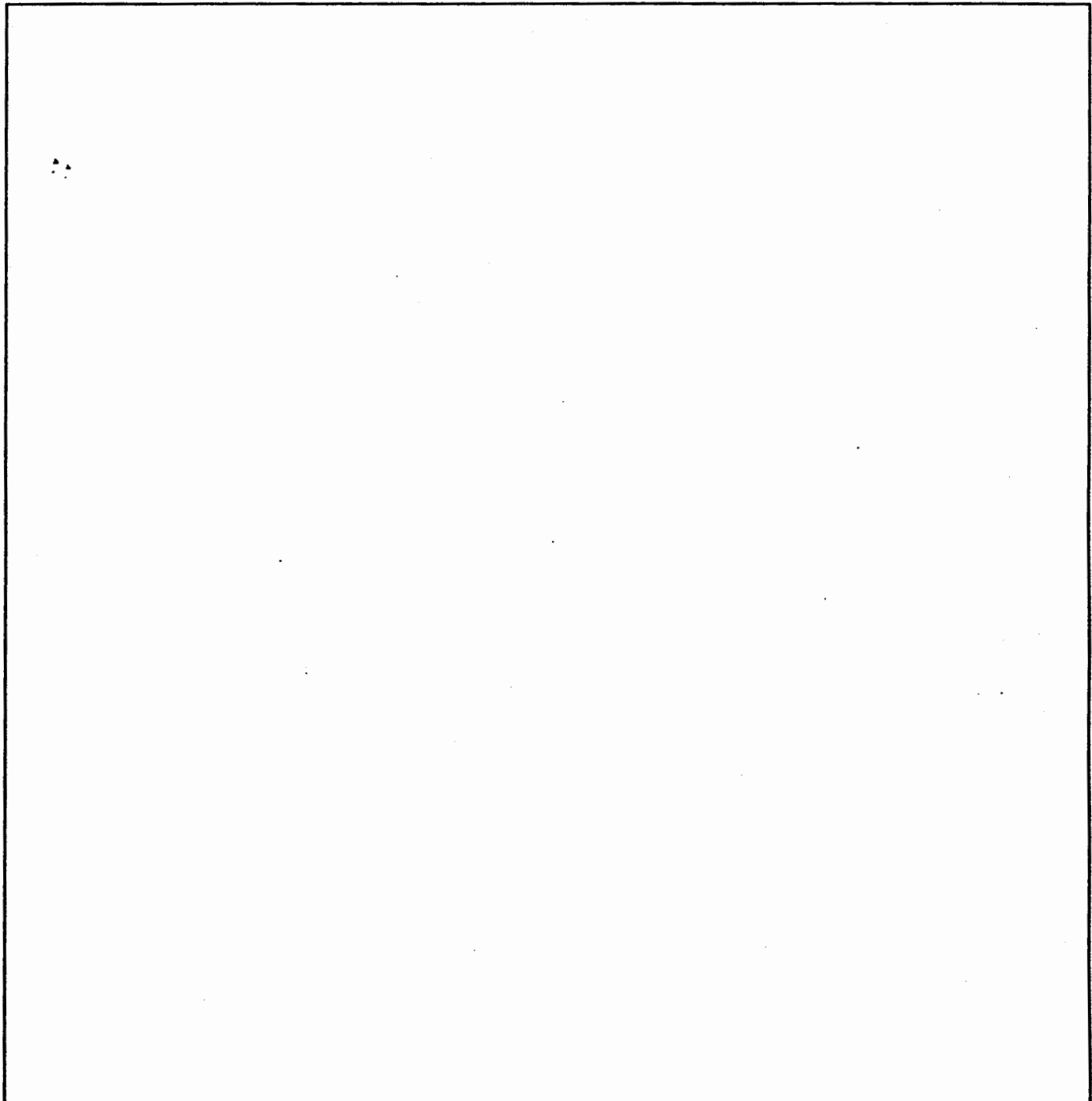
Combustibles/TRM

11. Data Acceptance

11.1 Information about this waste stream was omitted because it is classified: No

11.2 Date form completed: 12/21/93

11.3 Additional Comments:



APPENDIX I

APPENDIX I
IDB TOTALS FOR WASTE RADIONUCLIDES DERIVED FROM
TRU WASTE, DECAYED & ACCUMULATED TO DEC 1992

| <u>RADIONUCLIDE</u> | <u>CH</u> <u>CURIES</u> | <u>RH</u> <u>CURIES</u> |
|---------------------|----------------------------|----------------------------|
| Ac-225 | 2.85E-01 | 1.30E+00 |
| Ac-227 | 2.55E-01 | 4.42E-02 |
| Ac-228 | 3.79E-01 | 2.07E-03 |
| Ag109M | 1.68E+01 | 4.56E-08 |
| Ag110 | 4.98E-06 | 5.13E-07 |
| Ag110M | 3.74E-04 | 4.20E-05 |
| Am-241 | 4.13E+04 | 8.98E+04 |
| Am-242 | 1.25E-03 | 0.00E+00 |
| Am-242M | 1.26E-03 | 0.00E+00 |
| Am-243 | 1.62E+01 | 3.80E-01 |
| At-217 | 1.54E+00 | 4.13E-02 |
| Ba137M | 1.88E+03 | 2.78E+04 |
| Bi-209 | 0.00E+00 | 0.00E+00 |
| Bi-210 | 3.92E-01 | 3.56E-01 |
| Bi-211 | 2.98E-01 | 1.71E-03 |
| Bi-212 | 2.73E+01 | 1.31E+00 |
| Bi-213 | 1.54E+00 | 4.13E-02 |
| Bi-214 | 3.13E+00 | 2.47E+00 |
| Bk-249 | 3.91E-04 | 8.26E-04 |
| Bk-250 | 2.81E-05 | 0.00E+00 |
| C14 | 6.05E+00 | 7.41E+02 |
| Cd109 | 1.68E+01 | 0.00E+00 |
| Cd113M | 1.61E-05 | 1.17E-04 |
| Ce144 | 6.53E+01 | 8.85E+01 |
| Cf-249 | 1.14E+00 | 2.37E-02 |
| Cf-250 | 5.87E-01 | 2.12E-01 |
| Cf-251 | 3.85E-02 | 0.00E+00 |
| Cf-252 | 1.09E+02 | 1.10E+01 |
| Cm-242 | 1.50E-02 | 2.87E-06 |
| Cm-243 | 5.47E-01 | 3.41E+02 |
| Cm-244 | 3.94E+04 | 2.57E+03 |
| Cm-245 | 1.68E+01 | 7.63E-06 |
| Cm-246 | 4.15E-02 | 1.84E-03 |
| Cm-247 | 1.13E-09 | 0.00E+00 |
| Cm-248 | 2.72E-02 | 3.70E-04 |
| Co58 | 6.39E-04 | 2.40E-06 |
| Co60 | 1.21E+02 | 7.41E+03 |
| Cr51 | 0.00E+00 | 1.67E-28 |
| Cs134 | 2.68E+00 | 3.04E+02 |
| Cs135 | 2.62E-03 | 2.46E-02 |
| Cs137 | 1.98E+03 | 2.94E+04 |
| Es-253 | 3.27E-26 | 0.00E+00 |
| Es-254 | 2.81E-05 | 0.00E+00 |

| | | |
|---------|----------|----------|
| Eu150 | 3.71E-05 | 0.00E+00 |
| Eu152 | 3.49E+00 | 9.51E+03 |
| Eu154 | 1.11E+01 | 6.50E+03 |
| Eu155 | 1.60E+01 | 1.74E+03 |
| Fe55 | 4.25E-05 | 1.33E+00 |
| Fe59 | 4.00E+00 | 1.34E+00 |
| Fr-221 | 1.54E+00 | 4.13E-02 |
| Fr-223 | 4.10E-03 | 2.46E-05 |
| H3 | 1.37E+05 | 1.16E+01 |
| I129 | 4.16E-10 | 0.00E+00 |
| Kr85 | 2.38E-01 | 7.23E+00 |
| Mn54 | 1.48E-02 | 1.21E+00 |
| Nb95 | 8.03E+00 | 3.71E+00 |
| Nb95M | 8.07E-02 | 1.94E-02 |
| Ni63 | 9.27E-05 | 3.58E+00 |
| Np-237 | 1.68E+01 | 7.66E-01 |
| Np-238 | 6.29E-06 | 0.00E+00 |
| Np-239 | 1.66E+01 | 1.01E-03 |
| Np-240 | 1.10E-09 | 2.64E-14 |
| Np-240M | 1.00E-06 | 2.40E-11 |
| Pa-231 | 1.87E-03 | 2.18E-02 |
| Pa-233 | 1.68E+01 | 7.63E-01 |
| Pa-234 | 8.04E-03 | 2.84E-03 |
| Pa-234M | 6.18E+00 | 2.18E+00 |
| Pb-206 | 0.00E+00 | 0.00E+00 |
| Pb-207 | 0.00E+00 | 0.00E+00 |
| Pb-208 | 0.00E+00 | 0.00E+00 |
| Pb-209 | 1.54E+00 | 4.13E-02 |
| Pb-210 | 3.67E-01 | 3.81E-01 |
| Pb-211 | 2.98E-01 | 1.71E-03 |
| Pb-212 | 2.73E+01 | 1.31E+00 |
| Pb-214 | 3.13E+00 | 2.47E+00 |
| Pd107 | 3.88E-04 | 3.63E-03 |
| Pm147 | 5.37E+02 | 1.11E+03 |
| Po-210 | 3.12E-01 | 3.30E-01 |
| Po-211 | 8.15E-04 | 4.66E-06 |
| Po-212 | 1.75E+01 | 8.38E-01 |
| Po-213 | 1.51E+00 | 4.04E-02 |
| Po-214 | 3.13E+00 | 2.47E+00 |
| Po-215 | 2.98E-01 | 1.71E-03 |
| Po-216 | 2.73E+01 | 1.31E+00 |
| Po-218 | 3.13E+00 | 2.47E+00 |
| Pr144 | 6.53E+01 | 8.85E+01 |
| Pu-236 | 0.00E+00 | 2.15E-02 |
| Pu-238 | 5.81E+05 | 6.17E+04 |
| Pu-239 | 1.23E+05 | 4.08E+04 |
| Pu-240 | 1.63E+04 | 9.98E+03 |
| Pu-241 | 3.24E+05 | 1.78E+05 |
| Pu-242 | 4.91E+02 | 9.48E-01 |
| Pu-243 | 1.13E-09 | 2.86E-07 |
| Pu-244 | 1.00E-06 | 2.40E-11 |

| | | |
|-------------|-----------------|-----------------|
| Ra-223 | 2.56E-01 | 4.43E-02 |
| Ra-224 | 5.50E-01 | 2.81E+01 |
| Ra-225 | 2.86E-01 | 1.30E+00 |
| Ra-226 | 3.08E+00 | 2.52E+00 |
| Ra-228 | 8.03E-02 | 3.01E-01 |
| Rh106 | 2.59E+01 | 6.29E+01 |
| Rn-219 | 2.98E-01 | 1.71E-03 |
| Rn-220 | 2.73E+01 | 1.31E+00 |
| Rn-222 | 3.13E+00 | 2.47E+00 |
| Ru106 | 2.59E+01 | 6.29E+01 |
| Sb125 | 6.61E+00 | 1.67E+01 |
| Sb126 | 7.05E-04 | 6.61E-03 |
| Sb126M | 5.04E-03 | 4.72E-02 |
| Se79 | 2.28E-03 | 2.13E-02 |
| Sm151 | 8.34E+00 | 7.51E+01 |
| Sn119M | 6.25E-03 | 7.15E-04 |
| Sn121M | 1.62E-01 | 1.41E+00 |
| Sn123M | 1.41E-03 | 2.34E-04 |
| Sn126 | 5.04E-03 | 4.72E-02 |
| Sr90 | 1.44E+03 | 5.75E+04 |
| Ta182 | 0.00E+00 | 1.10E-04 |
| Tc99 | 1.79E+01 | 1.22E+00 |
| Te125M | 1.68E-02 | 2.76E-03 |
| Te127 | 1.02E-01 | 1.70E-02 |
| Te127M | 1.05E-01 | 1.74E-02 |
| Th-227 | 2.55E-01 | 4.43E-02 |
| Th-228 | 5.64E-01 | 2.81E+01 |
| Th-229 | 2.87E-01 | 1.31E+00 |
| Th-230 | 7.45E-03 | 2.08E-02 |
| Th-231 | 1.05E+00 | 3.67E+02 |
| Th-232 | 1.01E-01 | 3.33E-01 |
| Th-234 | 6.07E+00 | 2.30E+00 |
| Tl-207 | 2.98E-01 | 1.70E-03 |
| Tl-208 | 9.82E+00 | 4.70E-01 |
| Tl-209 | 3.33E-02 | 8.93E-04 |
| U-232 | 3.08E-01 | 2.80E+01 |
| U-233 | 2.14E+02 | 1.04E+03 |
| U-234 | 5.74E+01 | 6.94E+00 |
| U-235 | 9.94E-01 | 3.67E+02 |
| U-236 | 2.52E-03 | 4.46E-03 |
| U-237 | 1.22E+01 | 1.19E-01 |
| U-238 | 6.08E+00 | 2.30E+00 |
| U-240 | 1.00E-06 | 2.40E-11 |
| Y90 | 1.44E+03 | 5.75E+04 |
| Zn65 | 3.41E-08 | 2.80E-04 |
| Zr93 | 2.94E-02 | 2.76E-01 |
| <u>Zr95</u> | <u>3.80E+00</u> | <u>3.34E+01</u> |
| TOTAL | 1.27E+06 | 5.85E+05 |

ASSUMPTIONS:

1. Activities reported by individual sites in 1993 IDB are complete and accurate except for values marked as UNK which are counted as 0.
2. Equivalent Pu239 Activities.
3. Calculations to "decay" values reported by DOE sites were performed correctly and assumptions stated in the 1993 IDB are valid.
4. Site reporting was done in accordance with the instructions in the 1993 IDB data call.
5. All values stated in curies in scientific notation.

METHODOLOGY:

The figures presented here were arrived at by summing the calculated decayed values in the 1993 IDB from data reported by DOE sites managing TRU waste in response to a formal nationwide data call.

NOTE: The figures here require scaling by an appropriate methodology to arrive at "WIPP Design" values.

APPENDIX J

APPENDIX J

METHODOLOGY FOR CHANGING TRU WASTE GENERATOR/STORAGE SITE IDCs

In order to develop a waste characterization package for each waste stream at each DOE TRU waste generator/storage site, it was necessary to correlate the information in the MWIR, the NID, and the IDB. Because these databases were generated at different times to meet different requirements, the nomenclature, waste descriptions, waste codes, waste groupings, and waste streams can be different in each database.

Changing TRU Waste Generator/Storage Site IDCs

An important step in developing the correlation between the three databases was to relate the waste streams in the MWIR with those in the NID. If the MWIR waste stream did not have a direct correlation with a NID waste stream (IDCs did not match), then the information in the MWIR was closely examined to determine the physical and chemical properties of the waste stream.

There are several sections in the MWIR that provide information on waste stream characterization. The first sections evaluated were the "Waste Stream Description" and the "Waste Matrix Code." The "Waste Stream Description" section generally provided a physical and chemical description of the stream. The detail of information provided varied by site and by waste stream. At times it provided information about the generating process and required treatment to meet WIPP WAC. The "Waste Matrix Code" section provided a general overview of the physical and chemical waste form. The WMCs were especially helpful in determining the physical state of the waste when the waste stream description did not define the waste as solid, particulate, liquid, or sludge. Additionally, if the waste stream description provided a variety of types of waste (e.g., sludge, combustibles, etc.) the WMC was helpful in determining the composition of the majority of the waste stream. A list of specific waste matrix constituents was provided for each waste stream. These were usually similar for each stream. At times, several dissimilar codes were provided for one stream. An overall composite matrix code was provided for these streams, which was assumed to be the characterization of the majority of the waste stream (as defined in Appendix C of the WTWBIR).

If the MWIR data were not adequate to describe the waste stream, other sections of the MWIR were evaluated. The "Generating Site" section was used primarily to determine the generating site of waste streams stored at the INEL. The "Waste Names/WS ID" section provided a brief description of the waste stream. This was especially helpful in characterizing IN waste streams. This section provided "Waste Stream IDs" and "Previous Waste Stream IDs." These IN identification numbers could be related to the identification numbers of the generating sites, thus making it possible to go to the waste descriptions of the generating sites.

The "Cation/Anion" section provided information regarding previous treatment of the waste. This was helpful in determining if the waste has been compacted or solidified. The "Other Characterization" section was used in determining if a waste stream was organic or inorganic. The "Waste Packaging" section provided some information on the physical state of the waste, especially for liquid waste streams. The "MTRU Readiness" section was helpful in determining if the waste stream required treatment prior to meeting the WIPP WAC. Liquid, particulate, and reactive waste streams were identified as requiring treatment. The "Treat./Tech.," "Treatment Concerns," and "Regulatory Concerns" sections provided additional details on the treatment requirements of the waste stream and descriptions of the final waste form.

After evaluating all information in the MWIR, the waste streams in the NID (for the same TRU waste generating/storage site) were reviewed to identify a similar waste stream. Most of the waste streams in the NID are described in detail in the TRUCON (DOE, 1992). If adequate information was not available in the NID to develop an understanding of the waste stream, further information in TRUCON was reviewed. If a similar waste stream from the same site could be identified in the NID, the waste material parameter data from this NID waste stream were assigned to the particular waste stream profile.

If a similar waste stream from the same site could not be identified in the NID, then waste streams in the NID from other sites were reviewed and a similar waste stream was identified. The waste material parameter data from this NID waste stream were assigned to the waste stream profile.

There were four conditions that required the site IDC to be modified for the purposes of the WTWBIR.

1. The waste stream description indicated that the waste was expected to be WIPP WAC certifiable, but there was no corresponding IDC in the NID for that waste stream.
2. The waste stream description indicated that the waste was a liquid waste. Liquid waste streams do not meet disposal criteria for WIPP. It was assumed that these waste streams will be solidified prior to emplacement in the WIPP. The waste stream was assigned an IDC and waste material parameter data that corresponds to the solidified final waste form. When solidification occurs, there will be a volume increase. This volume increase was assumed to be 5:1.
3. The waste stream description indicated that the waste was a particulate waste stream. Particulate waste streams do not meet disposal criteria for WIPP. It was assumed that these waste streams will be solidified prior to emplacement in the WIPP. The waste stream was assigned an IDC and waste material parameter data that corresponds to the solidified final waste form. When solidification occurs, there will be a volume increase. This volume increase was assumed to be 4:1.
4. The TRU waste generating/storage site listed the waste stream as "unknown," but the waste stream description provided enough information to reclassify the waste.

APPENDIX K

**APPENDIX K
WASTE STREAM IDENTIFICATION CROSS-CORRELATION TABLE**

| <u>WS UNIQUID</u> | <u>MWIR IDC¹</u> | <u>TRUCON^{2,3}</u> | <u>NMVP^{2,3}</u> | <u>PART B²</u> |
|-------------------|-----------------------------|-----------------------------|---------------------------|---------------------------------|
| AE-W038 | NR | II | II | II |
| AE-W039 | NR | II | II | II |
| AE-W040 | NR | II | II | II |
| AE-W041 | NR | II | II | II |
| AE-W042 | NR | II | II | II |
| AL-W005 | Glovebox | II | II | II |
| AW-W016 | 245T | II | II | II |
| AW-W018 | 180T | II | II | II |
| AW-W019 | 182T | II | II | II |
| AW-W020 | 241T | II | II | II |
| AW-W021 | 243T | II | II | II |
| AW-W022 | 246T | II | II | II |
| AW-W024 | 503 | II | II | II |
| ET-W002 | ET | II | II | II |
| IN-W112 | 172 | II | II | Filters (Unspecified) |
| IN-W139 | NR | II | II | Metal (Unspecified) |
| IN-W146 | NR | II | II | II |
| IN-W157 | 004 | ID213 | ID213 | Solidified Liquid |
| IN-W159 | 811 | II | II | II |
| IN-W161 | 371 | ID222 | ID122 | Firebrick and Ceramic Crucibles |
| IN-W163 | 375 | ID122 | ID122 | Firebrick and Ceramic Crucibles |
| IN-W164 | 700 | ID112 | ID112 | Organic Liquid/Sludge |

¹ NR = Not Reported

² II = Insufficient Information was provided by the site to determine the code.

³ TRUCON and NMVP Codes cannot be assigned unless the site provides a corresponding waste IDC or TRUCON number in MWIR.

⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MWIR by the storage/generating site.

| | | | | |
|---------|-----|--------------------|--------------------|--|
| IN-W166 | 114 | ID114 ³ | ID114 ³ | Inorganic Process Solids and Soil |
| IN-W167 | 112 | ID112 ³ | ID112 ³ | Organic Liquid/Sludge (Unspecified) |
| IN-W169 | 330 | ID216 | ID216 | Combustibles |
| IN-W170 | 120 | II | II | Combustibles (Unspecified) |
| IN-W171 | 110 | II | II | Combustibles (Unspecified) |
| IN-W172 | 010 | II | II | Combustibles (Unspecified) |
| IN-W174 | 834 | II | II | II |
| IN-W177 | 835 | II | II | II |
| IN-W179 | 836 | II | II | II |
| IN-W181 | 978 | ID211 | ID211 | Inorganic Waste Water Treatment Sludge |
| IN-W186 | 116 | ID116 ³ | ID116 ³ | Combustibles (Unspecified) |
| IN-W187 | 980 | II | II | II |
| IN-W188 | 976 | ID211 | ID211 | Inorganic Waste Water Treatment Sludge |
| IN-W189 | 464 | ID221 | ID221 | Benelex and Plexiglas |
| IN-W197 | 336 | ID216 | ID216 | Combustibles |
| IN-W198 | 337 | ID216 | ID216 | Combustibles |
| IN-W199 | 460 | II | ID NYD | Combustibles (Unspecified) |
| IN-W202 | 970 | ID216 | ID216 | Combustibles |
| IN-W203 | 826 | II | II | Combustibles (Unspecified) |
| IN-W204 | 827 | II | II | Combustibles (Unspecified) |
| IN-W205 | 900 | ID216 | ID216 | Combustibles |
| IN-W206 | 119 | ID119 ³ | ID119 ³ | Filters (Unspecified) |
| IN-W207 | 328 | II | II | Filters (Unspecified) |
| IN-W208 | 335 | ID219 | ID219 | Filters |
| IN-W209 | 338 | ID219 | ID219 | Filters |
| IN-W210 | 360 | II | ID NYD | Filters (Unspecified) |
| IN-W211 | 376 | ID119 | ID119 | Filters |
| IN-W212 | 490 | ID219 | ID219 | Filters |

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⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MMIR by the storage/generating site.

| <u>WS UNIQUID</u> | <u>MWIR IDC¹</u> | <u>TRUCON^{2,3}</u> | <u>NMVP^{2,3}</u> | <u>PART B²</u> |
|-------------------|-----------------------------|-----------------------------|---------------------------|--|
| IN-W213 | 805 | II | II | Filters (Unspecified) |
| IN-W214 | 813 | II | II | II |
| IN-W216 | 001 | ID211 | ID211 | Inorganic Waste Water Treatment Sludge |
| IN-W218 | 007 | ID211 | ID211 | Inorganic Waste Water Treatment Sludge |
| IN-W219 | 030 | II | II | II |
| IN-W220 | 111 | ID111 ³ | ID111 ³ | Inorganic Waste Water Treatment Sludge (Unspecified) |
| IN-W221 | 113 | ID113 ³ | ID113 ³ | Solidified Liquid (Unspecified) |
| IN-W222 | 292 | II | II | II |
| IN-W225 | 302 | ID221 | ID221 | Benelex and Plexiglas |
| IN-W228 | 002 | ID211 | ID211 | Inorganic Waste Water Treatment Sludge |
| IN-W230 | 122 | ID122 ³ | ID122 ³ | Firebrick and Ceramic Crucibles |
| IN-W240 | 118 | ID118 ³ | ID118 ³ | Glass (Unspecified) |
| IN-W243 | 440 | ID218 | ID218 | Glass |
| IN-W245 | 441 | ID225 | ID225 | Glass (Oil Residue) |
| IN-W247 | 442 | ID218 | ID218 | Glass |
| IN-W249 | 810 | II | II | Glass (Unspecified) |
| IN-W250 | 123 | ID123 ³ | ID123 ³ | Leaded Rubber (Unspecified) |
| IN-W252 | 339 | ID223 | ID223 | Leaded Rubber |
| IN-W254 | 463 | ID223 | ID223 | Leaded Rubber |
| IN-W256 | 802 | II | ID NYD | Leaded Rubber (Unspecified) |
| IN-W257 | 151 | II | II | II |
| IN-W259 | 104 | II | II | II |
| IN-W260 | 040 | II | ID NYD | II |
| IN-W263 | 842 | II | II | II |
| IN-W265 | 374 | ID121 | ID121 | Benelex and Plexiglas |
| IN-W267 | 372 | II | II | II |

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⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MWIR by the storage/generating site.

| <u>WS UNIQID</u> | <u>MWIR IDC¹</u> | <u>TRUCON^{2,3}</u> | <u>NMVP^{2,3}</u> | <u>PART B²</u> |
|------------------|-----------------------------|-----------------------------|---------------------------|---------------------------------|
| IN-W269 | 150 | II | II | II |
| IN-W271 | 814 | II | II | II |
| IN-W272 | 312 | ID115 | ID115 | Graphite |
| IN-W275 | 301 | II | II | Graphite (Unspecified) |
| IN-W276 | 300 | ID215 | ID215 | Graphite |
| IN-W278 | 950 | II | II | II |
| IN-W280 | 803 | II | II | Metal (Unspecified) |
| IN-W281 | 824 | II | II | II |
| IN-W283 | 241 | ID225 | ID225 | Glass (Unspecified) |
| IN-W285 | 201 | II | ID NYD | II |
| IN-W287 | 101 | II | ID NYD | II |
| IN-W289 | 121 | II | II | II |
| IN-W291 | 100 | II | II | II |
| IN-W294 | 481 | ID217 | ID217 | Metal |
| IN-W296 | 480 | ID217 | ID217 | Metal |
| IN-W298 | 320 | ID217 | ID217 | Metal |
| IN-W300 | 117 | ID117 ³ | ID117 ³ | Metal (Unspecified) |
| IN-W302 | 020 | II | II | Metal (Unspecified) |
| IN-W306 | 9999 | II | II | II |
| IN-W308 | 000 | II | II | II |
| IN-W309 | 003 | ID212 | ID212 | Organic Liquid/Sludge |
| IN-W311 | 409 | II | II | Pyrochemical Salt (Unspecified) |
| IN-W312 | 124 | II | II | Pyrochemical Salt (Unspecified) |
| IN-W314 | 414 | II | II | Pyrochemical Salt (Unspecified) |
| IN-W315 | 005 | II | II | Pyrochemical Salt (Unspecified) |
| IN-W317 | 432 | II | II | II |
| IN-W319 | 431 | II | II | II |
| IN-W321 | 430 | II | II | II |
| IN-W323 | 153 | II | II | II |

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⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MWIR by the storage/generating site.

| <u>WS UNIQUID</u> | <u>MWIR IDC¹</u> | <u>TRUCON^{2,3}</u> | <u>NMVP^{2,3}</u> | <u>PART B²</u> |
|-------------------|-----------------------------|-----------------------------|---------------------------|----------------------------|
| IN-W325 | 815 | II | II | II |
| IN-W327 | 847 | II | II | II |
| IN-W329 | 848 | II | II | II |
| IN-W330 | 801 | II | II | II |
| IN-W332 | 204 | II | II | II |
| IN-W334 | 203 | II | II | II |
| IN-W336 | 202 | II | II | Combustibles (Unspecified) |
| IN-W337 | 200 | II | II | II |
| IN-W338 | 163 | II | II | II |
| IN-W339 | 162 | II | II | II |
| IN-W341 | 160 | II | II | II |
| IN-W342 | 157 | II | II | II |
| IN-W345 | 155 | II | II | II |
| IN-W347 | 102 | II | II | II |
| IN-W349 | 107 | II | II | II |
| IN-W350 | 106 | II | II | II |
| IN-W351 | 105 | II | II | II |
| IN-W354 | 412 | ID224 | ID224 | Not Applicable |
| IN-W355 | 411 | ID124 | ID124 | Not Applicable |
| IN-W356 | 410 | ID224 | ID224 | Not Applicable |
| IN-W357 | 425 | II | II | Not Applicable |
| IN-W359 | 015 | II | II | Not Applicable |
| IN-W360 | 012 | II | II | Not Applicable |
| IN-W361 | 422 | II | II | Not Applicable |
| IN-W362 | 421 | II | II | Not Applicable |
| IN-W363 | 420 | II | II | Not Applicable |
| IN-W364 | 392 | II | II | Not Applicable |
| IN-W365 | 391 | II | II | Not Applicable |
| IN-W366 | 370 | ID222 | ID222 | Not Applicable |

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⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MWIR by the storage/generating site.

| <u>WS UNIQID</u> | <u>MWIR IDC¹</u> | <u>TRUCON^{2,3}</u> | <u>NMVP^{2,3}</u> | <u>PART B²</u> |
|------------------|-----------------------------|-----------------------------|---------------------------|---------------------------|
| IN-W367 | 311 | II | II | Not Applicable |
| IN-W368 | 310 | II | II | Not Applicable |
| IN-W369 | 303 | II | II | Not Applicable |
| IN-W370 | 115 | II | II | Not Applicable |
| IN-W371 | 416 | ID117 | ID117 | Not Applicable |
| IN-W372 | 081 | II | II | Not Applicable |
| IN-W373 | 361 | II | II | Not Applicable |
| IN-W374 | 960 | II | ID NYD | Not Applicable |
| KA-W016 | OR-125A | II | II | II |
| LA-W034 | NR | II | II | II |
| LA-W035 | NR | II | II | II |
| LA-W036 | NR | II | II | II |
| LA-W037 | NR | II | II | II |
| LA-W038 | NR | II | II | II |
| LA-W039 | NR | II | II | II |
| LA-W040 | NR | II | II | II |
| LA-W041 | NR | II | II | II |
| LA-W042 | NR | II | II | II |
| LA-W043 | NR | II | II | II |
| LA-W044 | NR | II | II | II |
| LA-W045 | NR | II | II | II |
| LL-W018 | NR | II | II | II |
| LL-W019 | NR | II | II | II |
| LL-W020 | NR | II | II | II |
| MD-W002 | MD-833 | II | II | II |

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⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MWIR by the storage/generating site.

| <u>WS UNIQUID</u> | <u>MWIR IDC</u> ¹ | <u>TRUCON</u> ^{2,3} | <u>NMVP</u> ^{2,3} | <u>PART B</u> ² |
|-------------------|------------------------------|------------------------------|----------------------------|---|
| MD-W003 | MD-835 | II | II | II |
| MU-W002 | OR-125A | II | II | II |
| NT-W001 | LL-002 | NT111 NT211 | NT111 NT211 | NR |
| OR-W040 | 2039 | OR125 ³ | OR125 ³ | NR |
| OR-W042 | 2041 | II | II | II |
| OR-W044 | 2043 | OR125 ³ | OR125 ³ | II |
| OR-W045 | 2044 | OR125 ³ | OR125 ³ | II |
| OR-W046 | 2045 | II | II | II |
| OR-W047 | 2046 | OR125 ³ | OR125 ³ | II |
| PA-W014 | 14 | II | II | II |
| PA-W015 | 15 | II | II | II |
| RF-W008 | RF-374 | RF121 | RF121 | Benelex and Plexiglas |
| RF-W010 | RF-800 | RF111 | RF111 | Inorganic Waste Water Treatment Sludge |
| RF-W011 | RF-480 | RF117 | RF117 | Metal |
| RF-W012 | RF-831 | RF116 | RF116 | Combustibles |
| RF-W013 | RF-801 | RF112 | RF112 | Organic Liquid/Sludge |
| RF-W026 | RF-375 | RF122 | RF122 | Firebrick and Ceramic Crucibles |
| RF-W028 | RF-321 | RF117 | RF117 | Metal |
| RF-W029 | RF-339 | RF123 | RF123 | Leaded Rubber |
| RF-W032 | RF-444 | RF118 | RF118 | Glass |
| RF-W036 | RF-377 | RF122 | RF122 | Firebrick and Ceramic Crucibles |

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⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MWIR by the storage/generating site.

| <u>WS UNIQID</u> | <u>MWIR IDC¹</u> | <u>TRUCON^{2,3}</u> | <u>NMVP^{2,3}</u> | <u>PART B²</u> |
|------------------|-----------------------------|-----------------------------|---------------------------|---|
| RF-W037 | RF-320 | RF117 | RF117 | Metal |
| RF-W038 | RF-802 | RF113 | RF113 | Solidified Liquid |
| RF-W040 | NR | II | II | II |
| RF-W041 | RF-341 | II | II | Leaded Rubber (Unspecified) |
| RF-W052 | RF-440 | RF118 | RF118 | Glass |
| RF-W056 | RF-370 | RF118 | RF118 | Glass |
| RF-W057 | RF-438 | RF122 | RF122 | Firebrick and Ceramic Crucibles |
| RF-W058 | RF-411 | RF124 | RF124 | Pyrochemical Salt |
| RF-W059 | NR | II | II | II |
| RF-W060 | RF-303 | RF115 | RF115 | Graphite |
| RF-W063 | NR | II | II | II |
| RF-W065 | RF-333 | II | II | II |
| RF-W066 | RF-490 | RF119 | RF119 | Filters |
| RF-W067 | RF-376 | RF119 | RF119 | Filters |
| RF-W068 | NR | II | II | II |
| RF-W069 | NR | II | II | II |
| RF-W076 | NR | II | II | II |
| RL-W071 | TRUM-01 | II | II | II MWIR IDCs cannot be related to TRUCON or NMVP IDCs |
| RL-W072 | TRUM-02 | II | II | II |
| RL-W074 | TRUM-04 | II | II | II |
| RL-W075 | TRUM-05 | II | II | II |
| RL-W077 | TRUM-07 | II | II | II |
| RL-W078 | TRUM-08 | II | II | II |
| RL-W079 | TRUM-09 | II | II | II |
| RL-W080 | TRUM-10 | II | II | II |
| RL-W081 | TRUM-11 | II | II | II |
| RL-W082 | TRUM-12 | II | II | II |

¹ NR = Not Reported

² II = Insufficient Information was provided by the site to determine the code.

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⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MWIR by the storage/generating site.

| <u>WS UNIQUID</u> | <u>MWIR IDC¹</u> | <u>TRUCON^{2,3}</u> | <u>NMVP^{2,3}</u> | <u>PART B²</u> | |
|-------------------|-----------------------------|-----------------------------|---------------------------|---------------------------|---|
| RL-W083 | TRUM-13 | II | II | II | |
| RL-W085 | TRUM-15 | II | II | II | |
| RL-W086 | TRUM-16 | II | II | II | |
| RL-W101 | TRUM-17 | II | II | II | |
| RL-W133 | TRUM-21 | II | II | II | |
| RL-W134 | TRUM-22 | II | II | II | |
| RL-W135 | RH-001 | II | II | II | |
| SA-W134 | NR | II | II | II | |
| SR-W026 | O49/050 | II | II | II | MWIR IDCs cannot be related to TRUCON or NMVP IDCs |
| SR-W027 | O49/050 | II | II | II | |
| SR-W044 | 096 | II | II | II | |
| SR-W053 | NR | II | II | II | |
| WV-W024 | 2404 | II | II | II | |
| WV-W041 | NR | II | II | II | |

¹ NR = Not Reported

² II = Insufficient Information was provided by the site to determine the code.

³ TRUCON and NMVP Codes cannot be assigned unless the site provides a corresponding waste IDC or TRUCON number in MWIR.

⁴ IDC not in TRUCON. TRUCON and NMVP codes are based the TRUCON assignments made in MWIR by the storage/generating site.

APPENDIX L

APPENDIX L WTWBIR DATABASE DESCRIPTION

A database was set up to support the WTWBIR. This database is referred to as the WTWBIR database and is used to roll up the waste data in the WTWBIR. The database is operated in the Microsoft Access Version 2.0 system.

The primary sources for the data used in the WTWBIR database are the Phase II MWIR and the NID. Both of these sources are described or defined in Section 1.3.4 of the WTWBIR. The data dictionary for the WTWBIR is listed in Table L-2 of this appendix. The table is organized in groups based on the source of the data.

L.1 MIXED WASTE INVENTORY REPORT DATA

Each record in the database represents one waste stream as defined by a unique waste stream (UNIQUE_WS) that directly corresponds to the same field in the MWIR database. Only the mixed TRU waste records were imported. The data from some MWIR fields were not imported directly, but were used to produce new fields in the WTWBIR database. The MWIR-projected volume fields were added to produce one field in the WTWBIR database for a total projected volume. The total stored volume (TOTVOL) was imported directly from the similarly named field in the MWIR. The PCB-related fields in the MWIR were used to define a negative or positive entry for a new field, called PCBQ, which was used to determine whether a stream was regulated for PCBs. This field is similar to the ASBESTOSQ field imported from the MWIR used to determine whether a stream was regulated for asbestos. The data in other fields were imported directly without change.

The reports and tables produced for the WTWBIR are produced from different data sorts based on the MWIR fields and some modified MWIR fields added based on expert judgment. The data are sorted into waste stream profiles based on WMCs, WMCGs by site, CH or RH requirements, and the total WIPP inventory. Waste streams are defined by the unique waste stream identification number in the field UNIQUE_WS. The sites are defined in the field WS_SITE. The WMC was assigned to each stream in the MWIR in the field WS_MATCODE. This parameter is described in the MWIR form instructions as a "treatability group" and definitions are provided for each treatability group number based on waste forms and potential treatment options (see WTWBIR Appendix C). The WS_MATCODE represents a general description of the waste form and contents. The field ASSIGN_MTCDD10 was added by the WTWBIR team to identify the WMC used for sorting data for the tables and reports in the WTWBIR.

The field MATRIX_NAME was also added to describe groups of WMCs. In the WTWBIR the WMCs are sorted into a final set of 11 WMCGs. These WMCGs are based on similar physical and chemical properties. The names for the final WMCGs and the associated WMCs are shown in Table 1-2 in Chapter 1 of the WTWBIR. The names from Table 1-2 appear in the MATRIX_NAME field for each waste stream record. This field was used to sort for those tables and reports based on the 11 WMCGs assigned by the WTWBIR team.

A field called SCALED_VOL has been added for the total volume of each waste stream that will be disposed in the WIPP. This is a calculated field used only for the CH-TRU waste streams and is the amount of waste necessary to fill WIPP to its capacity. Additional waste volume was calculated for each waste stream proportionate to the sum of stored and projected volumes for each stream such that the sum of the scaled volumes for CH-TRU

waste equaled 180,000 m³. Enough waste is already identified to fill the WIPP to the regulatory capacity for RH-TRU waste.

Additional waste stream records were added to the database for non-mixed TRU waste at each site. The Phase II MWIR report includes only the mixed waste streams at each TRU waste generator/storage site. The INEL non-mixed TRU waste streams were included in the Phase I MWIR report but not in the Phase II report. Therefore, for INEL, the non-mixed TRU waste streams are imported from the Phase I MWIR. For other sites, non-mixed TRU waste streams were estimated based on expert judgement and the IDB for 1993. The IDB includes total volumes for all TRU waste for each waste storage/generator site. The amount of non-mixed TRU waste was estimated by subtracting the volumes for each site (except INEL) reported in the MWIR from the total TRU waste volumes reported in the IDB. These volumes for each site were then assigned to several different waste streams related to specific WMCs. The WMCs, volumes, IDCs, etc. were assigned based on expert judgement, previous site data, and informal contacts with knowledgeable site personnel. These waste streams can be identified by the UNIQUE_WS number. For mixed TRU waste streams from the MWIR, the number is of the form RF-W110 whereas for WTWBIR added streams the number is of the form RF-T110. This numbering system does not apply to the INEL non-mixed TRU waste streams because the numbering used in the phase I MWIR was retained.

L.2 NONRADIONUCLIDE INVENTORY DATABASE

The NID information was not imported directly, but was processed to produce the parameter information required for each record. The fields derived from the NID are identified in Table L-1 of this report. The NID information was rolled up into the parameters as identified by these fields. For example, weights of metals such as brass, copper, tantalum, and materials simply described as "metals" were rolled up under the field INOTMxxx (where xxx is minimum, maximum, or average) which stands for "inorganic other metals." Note that because some materials are described only as metals, aluminum and iron can be in the INOTMxxx field as well as in the INFExxx or INALxxx fields.

It is assumed for the purposes of this version of the WTWBIR (Revision 0) that all CH-TRU waste is packaged in standard 55-gallon steel drums with plastic liners and RH-TRU waste is packaged in the RH shipping containers. Because this is the case for every container and stream, it also is assumed unnecessary for this data to be explicitly entered in the database. The amount of steel in the drums is reported separately in the waste stream profiles.

Two categories of sludges and solidified materials are represented by fields. These are solidified inorganic solids (SINxxx) and solidified organic solids (SORxxx). The particular category into which a sludge or solidified material is placed is determined by the overall matrix of the resulting material after any solidification or stabilization efforts. For example, a small amount of organic liquids/sludges solidified in cement would be placed in the "inorganic solids" category and a drum of organic-based resin beads would be placed in the "organic solids" category.

The rest of the fields are reasonably self explanatory, but additional discussion on ORGCxxx, ORGRxxx, and ORGPxxx, may be helpful. The field ORGCxxx includes all cellulose-based materials and will typically include paper, cloth, wood, kimwipes and other materials derived from plant based materials. It is assumed that cloth is plant-derived material such as cotton and not plastic-based material such as rayon or nylon. The data does not describe the type of cloth. ORGRxxx consists of rubber-based materials. Included in this category are hypalon,

neoprene, and surgeons gloves. ORGPxxx represents plastics such as Lucite, polyethylene, Tyvek, Teflon and polyvinyl chloride. Plastic bags are used extensively in packaging the waste and would be included in this category. The plastic drum liners are not included in this category and are listed separately.

Each record derived from the NID is associated with an IDC number by the site as an identification code for a particular waste stream or type of waste. Expert judgement was used to assign an appropriate IDC to each MWIR waste stream (see Appendix J of the WTWBIR). The IDC then represented the relationship between an MWIR waste stream and the NID-derived material parameter data. The NID information provided weights for materials in an average drum and sometimes provided minimum and maximum weights for the materials. These data were used to calculate densities of particular materials for each IDC. These weights for each material parameter represent the waste profile for each IDC and, hence, for each MWIR waste stream.

Waste material parameters from the NID were rolled up into more general categories. The best way to describe this is with a hypothetical example in Table L-1.

TABLE L-1. NID INFORMATION

| Waste Material Parameter | Minimum (wt%) | Average (wt%) | Maximum (wt%) |
|--------------------------------|---------------|---------------|---------------|
| Paper | 10 | 30 | 80 |
| Kimwipes | 5 | 15 | 40 |
| Cloth | 0 | 5 | 10 |
| Cellulosics | | | |
| Drum Weights (kg) (waste only) | 50 | 95 | 150 |

The average weight percent does not add to 100 percent because other parameters, such as metals, make up the rest of an average drum. As shown in the fourth line of Table L-1, the data would roll up into the WTWBIR database as cellulosic materials. The result in the WTWBIR would be as follows:

Weight per drum (Kg)

| Parameter | Min | Avg | Max |
|-----------|-----|------|-----|
| Cellulose | 7.5 | 47.5 | 150 |

The minimum is the sum of the minimum weight percents in the NID, multiplied by the minimum weight of waste (i.e., 15 percent x 50 kg = 7.5 kg) in the drum. The average is the sum of the average weight percents multiplied by the average weight of waste (i.e., 50 percent x 95 kg = 42.5 kg) in the drum. The maximum is the sum of the maximum weight percentages multiplied by the maximum weight of waste (i.e., 100 percent x 150 kg = 150 kg) in the drum. In this case the maximum weight percentages add to more than 100 percent, which is physically impossible; therefore, 100 percent is used for the maximum weight percentage. When tables and reports are computed for the WTWBIR, the weights per drum are converted to weight per cubic meter based on 0.208 cubic meters per 55-gallon drum.

The rollups of these material parameters by WMCGs or by site use the volumes from the MWIR information in the WTWBIR database. The rollups by WMCGs or by site require combining data for several MWIR waste streams. The averages for the material parameters are calculated from the NID-derived average densities modified by the MWIR volume fractions and summed as follows:

$$\text{Average Density of rollup group} = \text{Average Density,} \quad \times \quad \frac{(\text{Volume MWIR Stream}_i)}{(\text{Total Volume of Group})} \quad + \quad \bullet \quad \bullet \quad \bullet$$

The minimum density is chosen as the smallest minimum density of a particular waste material parameter in the MWIR waste streams in a particular site-specific rollup. The maximum density is chosen in a similar manner, except that the largest maximum density was chosen.

In many cases, the NID does not have data for minimum and maximum percentages, even though average percentages are provided. In these cases, for rollup purposes only, the minimum is assumed to be zero and the maximum is assumed to be equal to the average. This ensures that the calculated and rolled up maximum densities are greater than the average densities. However, the maximum density may not be a true maximum but the maximum average density.

L.3 TABLES AND REPORTS FOR THE WTWBIR

The tables and reports for the WTWBIR were produced using the facilities provided by the Microsoft Access Version 2.0 database system. These tables and reports consist primarily of various sorts based on waste streams, WMCs, sites, etc. and summations of volumes and material parameter weights. Queries and report specifications were set up as defined within the Access system and quality controlled in compliance with the Quality Assurance Plan CTS_WTAC_0001.

L.4 WTWBIR TEAM

The data entry, manipulations, and reporting was conducted in conformance to a Quality Assurance Plan (CTS-WTAC-0001). The basic concept of the plan was to:

- Maintain record copies of the database at different points in the development.
- Maintain a paper trail of additions and changes to the database.
- Document and verify the correct use of the database to produce the reports and tables used in the WTWBIR.

This was accomplished by documenting and verifying the changes, additions, corrections, and report and table generation through the use of formal change forms signed and dated by the implementor and checker. The implementor is the individual who initially makes the changes or develops the report or table and the checker is a another individual who checks and verifies that the initial work was correct. If the initial implementation was not correct, the checker confers with the implementor, changes are agreed upon, and the checker and implementor both check that the changes are properly implemented.

The change form is also used by anyone on the WTWBIR team to request a change or addition to the database. In this case, the form also includes the requestors name and the date requested. The requestor can also be the checker or implementor but not both.

The database manager is responsible for maintaining the record copies of the database, tracking and ensuring proper use of change forms and ensuring that the technical lead for the WTWBIR team is cognizant of changes being made to the data.

L.5 NONRADIONUCLIDE DATABASE

The data in the NID was provided by IT. A quality control check of the data was conducted by IT using internal quality assurance plans. The WTWBIR team's quality assurance plan accepted the data as received from IT and ensured that the data was correctly manipulated and imported into the WTWBIR database.

L.6 MIXED WASTE INVENTORY REPORT

This is a published database used extensively to develop the WTWBIR database. The WTWBIR quality assurance plan accepted the data as published and ensured that the data was correctly manipulated and imported into the WTWBIR database.

TABLE L-2. WTWBIR DATA DICTIONARY

| | |
|----------------------|--|
| UNIQUE_WS | Waste stream identification number from Phase II MWIR |
| WASTESTREA | Short for "Waste Stream Description": descriptive information attached to the waste stream record by the interim storage site. From Phase II MWIR |
| WASTETYPE | For the purposes of the WTWBIR, a binary choice between mixed TRU waste and TRU waste. |
| WS_ID_IMWR | Waste stream identification in the Interim Mixed Waste Inventory Report, if applicable and reported |
| WS_ID_SITE | Waste stream identification assigned locally at the interim storage site |
| Field_Office | Abbreviation of DOE field office responsible for interim storage site |
| Generator | Abbreviation of the site where the waste was generated |
| ID Code | Site-specific IDCs assigned to the specified stream by the interim storage site |
| IDC1 | IDC, first reported by site, if applicable |
| WS-SITE | Interim storage site abbreviation |
| WS_TRUCON | First TRUCON assigned by site, if applicable |
| WS_TRUCON1 | Second TRUCON assigned by site, if applicable |
| WS_MATCODE | Waste stream treatability group number assigned by the site for the Phase II MWIR |
| WS_MATNAME | Name associated with the treatability group number assigned by the site for the Phase II MWIR |
| Assign_MTCD10 | Treatability group number assigned by WTWBIR team on the basis of professional judgement and review of reported and available data |
| MATRIX_NAME | The name assigned by the WTWBIR team to group waste streams by common waste parameters. Used to roll up waste streams for the WTWBIR (See Table 1-2) |
| ASBESTOSQ | Binary response as to whether or not the waste stream is regulated for asbestos (YES or NO) |

TABLE L-2. WTWBIR DATA DICTIONARY

| | |
|---------------|--|
| PCBQ | Binary response as to whether or not the waste stream is regulated for PCBs |
| Cunit | Units of volume used to specify CVolume, normally g for gallons |
| CVolume | Internal volume of the container specified. Normally 55-gal. drums for Rev. 0 |
| Stored_Volume | Total volume in m ³ stored at the specified site at end of 1992; extracted from the Phase II MWIR, including WTWBIR adjustments |
| PROJ_SUM | Projected additional amount generated in the future that will go to the WIPP; extracted from the Phase II MWIR, including WTWBIR adjustments |
| Scaled | The additional volume needed to fill the WIPP with CH-TRU waste to 180,000m ³ |
| INALavg | Aluminum-based materials, density in kg/m ³ for a specific waste stream |
| INALmax | Aluminum-based materials, maximum reported density in kg/m ³ for a specific waste stream |
| INALmin | Aluminum-based materials, minimum reported density in kg/m ³ for a specific waste stream |
| INFEavg | Iron-based materials, volume-weighted average, for a specific waste stream |
| INFEmax | Iron-based materials, maximum reported, for a specific waste stream |
| INFEmin | Iron-based materials, minimum reported, for a specific waste stream |
| INOTMavg | Other inorganic metals, volume-weighted average, for a specific waste stream |
| INOTMmax | Other inorganic metals, maximum reported, for a specific waste stream |
| INOTMmin | Other inorganic metals, minimum reported, for a specific waste stream |
| INOTOavg | Other inorganic materials, other materials, volume-weighted average, for a specific waste stream |
| INOTOmax | Other inorganic materials, other materials, maximum reported, for a specific waste stream |
| INOTOmin | Other inorganic materials, other materials, minimum reported, for a specific waste stream |

TABLE L-2. WTWBIR DATA DICTIONARY

| | |
|----------|--|
| ORGCavg | Organic materials, cellulose, volume-weighted average, for a specific waste stream |
| ORGCmax | Organic materials, cellulose, maximum reported, for a specific waste stream |
| ORGCmin | Organic materials, cellulose, minimum reported, for a specific waste stream |
| ORGOTavg | Organic materials, other, volume-weighted average, for a specific waste stream |
| ORGOTmax | Organic materials, other, maximum reported, for a specific waste stream |
| ORGOTmin | Organic materials, other, minimum reported, for a specific waste stream |
| ORGPavg | Organic materials, plastic, volume-weighted average, for a specific waste stream |
| ORGPmax | Organic materials, plastic, maximum reported, for a specific waste stream |
| ORGPmin | Organic materials, plastic, minimum reported, for a specific waste stream |
| ORGRavg | Organic materials, rubber, volume-weighted average, for a specific waste stream |
| ORGRmax | Organic materials, rubber, maximum reported, for a specific waste stream |
| ORGRmin | Organic materials, rubber, minimum reported, for a specific waste stream |
| SINavg | Solidified materials, inorganic matrix, volume-weighted average, for a specific waste stream |
| SINmax | Solidified materials, inorganic matrix, maximum reported, for a specific waste stream |
| SINmin | Solidified materials, inorganic matrix, minimum reported, for a specific waste stream |
| SLavg | Soils, volume-weighted average, for a specific waste stream |
| SLmax | Soils, maximum reported, for a specific waste stream |
| SLmin | Soils, minimum reported, for a specific waste stream |
| SORavg | Solidified materials, organic matrix, volume-weighted average, for a specific waste stream |

TABLE L-2. WTWBIR DATA DICTIONARY

| | |
|--------|---|
| SORmax | Solidified materials, organic matrix, maximum reported, for a specific waste stream |
| SORmin | Solidified materials, organic matrix, minimum reported, for a specific waste stream |

APPENDIX M

APPENDIX M
MWIR CODE DESIGNATIONS AND DESCRIPTIONS

| Code | Description | Code | Description |
|-------|---|-----------|---|
| D001A | High TOC Ignitable Liquids | F001-F005 | Pharmaceutical Industry Wastewaters |
| D001B | Descr. Based on 40 CFR 261.21, High TOC Subcat., Managed CWA | F005A | Spent Nonhalogenated Solvents |
| D001C | Descr. Based on 40 CFR 261.21, High TOC Subcat., Non-CWA | F005B | Listed for 2-Nitropropane |
| D002A | Acid, Alkaline, & Other Subcat Based on 40 CFR 261.22 CWA | F005C | Listed for 2-Ethoxyethanol |
| D002B | Acid, Alkaline, & Other Subcat Based on 40 CFR 261.22 Non-CWA | F025A | Light Ends |
| D002C | High Level Wastes | F025B | Spent Filters/Aids and Desiccants |
| D003A | Reactive Cyanides | K006A | Anhydrous |
| D003B | Reactive Sulfides | K006B | Hydrated |
| D003C | Explosives | K061A | High Zinc |
| D003D | Water Reactives | K061B | Low Zinc |
| D003E | Other Reactives | K069A | Calcium Sulfate |
| D004A | TCLP Toxic for Arsenic | K069B | Non Calcium Sulfate |
| D004B | High Level Wastes | K071A | Low Mercury |
| D005A | TCLP Toxic for Barium | K071B | High Mercury |
| D005B | High Level Wastes | K106A | Low Mercury |
| D006A | TCLP Toxic for Cadmium | K106B | High Mercury |
| D006B | Cadmium-containing Batteries | K106C | High Mercury Residues from RMERC |
| D006C | High Level Wastes | K106D | Low Mercury Residues from RMERC |
| D007A | TCLP Toxic for Chromium | K106E | Low Mercury Residues |
| D007B | High Level Wastes | K106F | Wastewaters |
| D008A | TCLP Toxic for Lead | P065A | High Mercury Incinerator or RMERC Residues Containing Mercury |

**APPENDIX M
MWIR CODE DESIGNATIONS AND DESCRIPTIONS**

| | | | |
|-------|--|-------|--|
| D008B | Lead Acid Batteries | P065B | Residues That Are Not Incinerator or RMERC Residues |
| D008C | Radioactive Lead Solids | P065C | Low Mercury RMERC Residues Containing Mercury Fulminate |
| D008D | High Level Wastes | P065D | Incinerator Residues Containing Mercury Fulminate |
| D009A | TCLP Toxic for Mercury | P065E | Wastewaters |
| D009B | High Mercury (Contains Organics) | P092A | High Mercury Incinerator or RMERC Residues Containing Phenyl Mercury Acetate |
| D009C | High Mercury (Contains Inorganics) | P092B | Residues That Are Not Incinerator or RMERC Residues |
| D009D | Elemental Mercury Contaminated with Radioactive Materials | P092C | Low Mercury RMERC Residues Containing Phenyl Mercury Acetate |
| D009E | Hydraulic Oil Contaminated with Mercury Radioactive Material | P092D | Incinerator Residues Containing Phenyl Mercury Acetate |
| D009F | High Level Wastes | P092E | Wastewaters |
| D010A | TCLP Toxic for Selenium | U151A | High Mercury Residues from RMERC |
| D010B | High Level Wastes | U151B | Low Mercury Residues from RMERC |
| D011A | TCLP Toxic for Silver | U151C | Low Mercury Residues |
| D011B | High Level Wastes | U151D | Radioactive Elemental Mercury |

**Exhibits for Submission to NMED
With WIPP's Comments to
the November 26, 2003 Agency-
Initiated Permit Modification**

Volume 2 of 4

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the 11/26/03 Agency-Initiated Permit Modification***

| | No. | Date | Description |
|---------------|-----|------------|---|
| Volume 1 of 4 | 1. | 9/10/99 | Report of the Hearing Officer In the Matter of the Final Permit Issued to the U.S. Department of Energy and Westinghouse Electric Company Waste Isolation Division for a Hazardous Waste Act Permit for the Waste Isolation Pilot Plant, USEPA No. NM4890139088 |
| | 2. | June 1994 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 0, Book 1 of 2, CAO-94-1005 |
| | 3. | June 1994 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 0, Book 2 of 2, CAO-94-1005 |
| | 4. | Feb. 1995 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 1, Volume 1, CAO-94-1005 |
| Volume 2 of 4 | 5. | Feb. 1995 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 1, Volume 2, CAO-94-1005 |
| Volume 3 of 4 | 6. | Feb. 1995 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 1, Volume 3, CAO-94-1005 |
| | 7. | June 1996 | Transuranic Waste Baseline Inventory Report, Revision 3, DOE/CAO-95-1121 |
| | 8. | 11/2/95 | Letter from B. Hoditschek of NMED to G. Dials of WIPP transmitting NMED comments on Revision 5 of the WIPP Part B RCRA Permit Application (Chapters A, B, and C), and requesting additional information |
| | 9. | 12/20/95 | Letter from M. McFadden of WIPP to B. Garcia of NMED providing responses to NMED's 11/2/95 comments on Revision 5 of the WIPP Part B RCRA Permit Application |
| | 10. | 3/14/96 | Letter from B. Garcia of NMED to G. Dials and J. Epstein of WIPP transmitting a Notice of Deficiency (NOD) regarding Revision 5.2 of WIPP's Part B RCRA Permit Application |
| | 11. | 4/12/96 | WIPP's responses to NMED's 3/14/96 NOD, hand delivered to B. Garcia of NMED on 4/12/96 |
| | 12. | 3/19/99 | Verbal hearing testimony of NMED's technical expert Constance Marie Walker during WIPP's 1999 RCRA Permit hearing, transcript pages 2717 - 2719 |
| | 13. | 6/25/99 | Summary of May 15, 1998 Draft Permit Public Comments and Responses to Comments by NMED, Module II.C, NMED response to Comment N-46, as reviewed by "CMW" |
| | 14. | 3/23/99 | NMED's Direct Testimony Regarding Regulatory Process and Imposed Conditions |
| | 15. | Jan. 2004 | NMED Green Gazette Newsletter, Volume I, Issue 1, Winter 2004 |
| | 16. | 1/9/04 | Request for Class 3 Permit Modification to the Hazardous Waste Facility Permit, Permit Number NM4890139088-TSDF, Implementing Section 311 of Public Law 108-137, transmittal letter from I. Triay and S. Warren of WIPP to S. Zappe of NMED |
| | 17. | 6/27/02 | WIPP Class 2 Permit Modification Request, Waste Characterization Updates and Other Process Improvements, Add U134 as a New Hazardous Waste Number, transmittal letter from I. Triay and J. Lee of WIPP to S. Zappe of NMED |
| | 18. | 11/25/02 | Letter from G. Lewis of NMED to I. Triay of WIPP approving 6/27/02 Class 2 PMR to add U134 as a new hazardous waste number |
| | 19. | Dec. 2001 | Rinchem Company, Inc., Albuquerque, NM - Final RCRA Operating Permit |
| | 20. | 12/2/97 | Rinchem Company, Inc., Albuquerque, NM - NMED request for supplementary information regarding Rinchem's Waste Analysis Plan in the Permit Application |
| | 21. | 4/24/96 | Rinchem Company, Inc., Albuquerque, NM - NMED Notice of Deficiency regarding February 1995 Permit Application |
| | 22. | 2/7/95 | Rinchem Company, Inc., Albuquerque, NM - RCRA Permit Application |
| | 23. | Sept. 2003 | Safety-Kleen, Albuquerque, NM - Final RCRA Operating Permit |

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| | 24. | 11/15/02 | Safety-Kleen, Albuquerque, NM - NMED NOD regarding 7/27/01 Permit Application |
| | 25. | 3/9/03 | Safety-Kleen, Albuquerque, NM - responses to NMED's 11/15/02 NOD |
| | 26. | 1/27/01 | Safety-Kleen, Albuquerque, NM - RCRA Permit Application |
| | 27. | Sept. 2003 | Safety-Kleen, Farmington, NM - Final RCRA Operating Permit |
| | 28. | 11/15/02 | Safety-Kleen, Farmington, NM - NMED NOD regarding the 10/4/00 Permit Application |
| | 29. | 3/9/03 | Safety-Kleen, Farmington, NM - response to NMED's 11/15/02 NOD |
| | 30. | 10/4/00 | Safety-Kleen, Farmington, NM - RCRA Permit Application |
| | 31. | Mach 2002 | Gandy Marley, Inc. Triassic Park Waste Disposal Facility, Chavez County, NM, RCRA Operating Permit |
| | 32. | 6/11/99 | Fax from P. Corser of Montgomery Watson to G. Starkebaum of TechLaw, re: Preliminary Draft of Gandy Marley, Inc. Response to Request for Supplemental Information - May 1999 |
| | 33. | 6/10/99 | Letter from J. Bearzi of NMED to L. Gandy of Triassic Park, re: Draft Responses to Request for Supplemental Information |
| | 34. | 5/5/00 | Letter from S. Kruse of NMED to R. Davis of State Fire Marshal's Office, re: Proposed Hazardous Waste Landfill |
| | 35. | March 1988 | "Hazardous Waste Storage and Disposal in Geologic Repositories - Permit Guidance Under the Resource Conservation and Recovery Act, OSWER Directive 9523.00-1", U.S. EPA |
| | 36. | 10/17/01 | Verbal hearing testimony of NMED's technical expert Constance Marie Walker during Triassic Park's RCRA Permit hearing, transcript pages 857-859 |
| | 37. | 10/19/01 | Hearing Officer's Report, In the Matter of the Draft Final Permit for the Triassic Disposal Facility U.S. EPA No. NM0001022484, pages 97 - 98 |
| | 38. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Table of Contents and Cross-Reference Table |
| | 39. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Chapter A (incl. Part A Permit Application Form Revision 7) |
| | 40. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Chapter B |

**Waste Isolation Pilot Plant Transuranic
Waste Baseline Inventory Report**



February 1995

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**Prepared by WIPP Technical Assistance Contractor
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ACRONYMS AND ABBREVIATIONS

| | |
|----------------|--|
| AE | ANL-E site identifier |
| AL | Ames Laboratory site identifier |
| ANL-E | Argonne National Laboratory-East |
| AW | ANL-W site identifier |
| ANL-W | Argonne National Laboratory-West |
| BC | Battelle Columbus Laboratory site identifier |
| BT | Bettis Atomic Power Laboratory site identifier |
| CFR | Code of Federal Regulations |
| CH | contact handled |
| CY | calendar year |
| D&D | decontamination and decommissioning |
| DOE | U.S. Department of Energy |
| EPA | U.S. Environmental Protection Agency |
| ER | environmental restoration |
| ET | ETEC site identifier |
| ETEC | Energy Technology Engineering Center |
| FFCAct | Federal Facility Compliance Act |
| FGE | Fissile Gram Equivalent |
| HDPE | high-density polyethylene |
| HQ | (DOE) Headquarters |
| ID | identification |
| IDB | Integrated Data Base |
| IDC | item description code |
| IN | INEL site identifier |
| INEL | Idaho National Engineering Laboratory |
| IT | ITRI site identifier |
| ITRI | Inhalation Toxicology Research Institute |
| KA | KAPL site identifier |
| KAPL | Knolls Atomic Power Laboratory - Schenectady |
| kg | kilograms |
| LA | LANL site identifier |
| LANL | Los Alamos National Laboratory |
| LB | LBL site identifier |
| LBL | Lawrence Berkeley Laboratory |
| LL | LLNL site identifier |
| LLNL | Lawrence Livermore National Laboratory |
| MD | Mound Plant site identifier |
| m ³ | cubic meters |
| mrem | millirem |
| MU | University of Missouri site identifier |
| MTRU | mixed transuranic |
| MWIR | Mixed Waste Inventory Report |
| NMVP | No-Migration Variance Petition |
| NT | NTS site identifier |
| NTS | Nevada Test Site |
| OR | ORNL site identifier |

| | |
|------------|---|
| ORNL | Oak Ridge National Laboratory |
| PA | performance assessment (in text only) |
| PA | PGDP site identifier (in waste profiles only) |
| PCB | polychlorinated biphenyls |
| PGDP | Paducah Gaseous Diffusion Plant |
| PX | Pantex site identifier |
| RADAC | Radioactive Decay and Accumulation Code (System) |
| RCRA | Resource Conservation and Recovery Act |
| RF | RFETS site identifier |
| RFETS | Rocky Flats Environmental Technology Site |
| RH | remote handled |
| RL | Richland (Hanford) site identifier |
| SA | SNL/NM site identifier |
| SARP | Safety Analysis Report for Packaging |
| SNL/NM | Sandia National Laboratories/New Mexico |
| SPM | Systems Prioritization Methodology |
| SR | SRS identifier |
| SRS | Savannah River Site |
| SWB | Standard Waste Bay |
| TRU | transuranic |
| TRUCON | TRUPACT-II Content Codes |
| TRUPACT-II | Transuranic Package Transporter-II |
| TSCA | Toxic Substances Control Act |
| WAC | waste acceptance criteria |
| WIPP | Waste Isolation Pilot Plant |
| WMC | waste matrix code |
| WMCG | waste matrix code group |
| WS | waste stream |
| WTWBIR | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report |
| WTWBID | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Database |
| WV | WVDP site identifier |
| WVDP | West Valley Demonstration Project |

PREFACE

The information in this report summarizes the U.S. Department of Energy's (DOE) transuranic (TRU) waste inventory, projections, and characteristics. Revision 0 of the Waste Isolation Pilot Plant (WIPP) Transuranic Waste Baseline Inventory Report (WTWBIR) published in June 1994, was the first attempt ever made by the DOE complex to report all of its TRU waste at the waste stream level. The waste data reported in Revision 0 was considered preliminary until quality checks of the data were completed by the DOE TRU waste generator/storage sites. Data changes resulting from the site reviews are contained herein.

The primary differences between Revision 0 and Revision 1 of the WTWBIR are as follows:

- The WIPP baseline inventory reported in Revision 0 was compiled from three existing DOE databases, whereas, inventory data in Revision 1 was collected directly from the sites through a request made by the National TRU Program Office.
- The nonmixed, TRU waste streams reported in Revision 0 were derived from the volume differences between the Integrated Data Base (IDB) and Mixed Waste Inventory Report (MWIR), while the nonmixed TRU waste streams contained in Revision 1 are as reported by the TRU waste generator/storage sites.
- Revision 1 of the WTWBIR reports radionuclide data at the waste stream level. Where sites provided radionuclide data as the waste stream level, it is replicated in Appendix A. A WIPP radionuclide inventory is provided in Table 4-2. This table is derived from the data submitted to support the IDB. Revision 0 reported the radionuclide data at the WIPP level.
- Revision 1 reports the waste volumes in the final waste form that will be sent to WIPP. All previous databases, including Revision 0 of WTWBIR, report the waste in terms of volumes in storage before processing to meet WIPP requirements.
- The total radionuclide inventory for contact-handled (CH) TRU waste is much higher in Revision 1 than reported in Revision 0. This is due to two reasons: 1) Savannah River Site waste that was previously reported as "unknown" had not been included in the estimates, and 2) the "projected" part (1993-2022) of the CH-TRU radionuclide inventory was inadvertently left out of the totals reported in Revision 0, causing the inventory to be approximately 25% low. Revision 1 corrects the inventory reporting error.
- The total radionuclide inventory for remote-handled (RH) TRU waste is also much higher in Revision 1. During calculation of the RH-TRU inventory the volume defined by the sites included more waste than the repository is authorized to accept. During those calculations, the IDB radionuclide numbers only covered the "stored" part of the inventory. This made the RH-TRU inventory reported in Revision 0 to be low by a factor of approximately 3-4. Revision 1 corrects the inventory reporting error.
- Oak Ridge National Laboratory has reported a very conservative inventory for U-235 in its RH-TRU waste (≈ 367 curies). In order to provide a more realistic estimate of the U-235 inventory, an anticipated transportation requirement for the RH-TRU cask was imposed in Revision 1. This requirement modifies the U-235 estimate reported in Revision 0.

EXECUTIVE SUMMARY

The *Waste Isolation Pilot Plant (WIPP) Transuranic Waste Baseline Inventory Report (WTWBIR)* establishes a methodology for grouping wastes of similar physical and chemical properties, from across the U.S. Department of Energy (DOE) transuranic (TRU) waste system, into a series of "waste profiles" that can be used as the basis for waste form discussions with regulatory agencies. The majority of this document reports TRU waste inventories of DOE defense sites. An appendix is included which provides estimates of commercial TRU waste from the West Valley Demonstration Project.

The WIPP baseline inventory is estimated using waste streams identified by the DOE TRU waste generator/storage sites, supplemented by information from the Mixed Waste Inventory Report (MWIR) and the 1994 Integrated Data Base (IDB). The sites provided and/or authorized all information in the Waste Stream Profiles except the EPA (hazardous waste) codes for the mixed inventories. These codes were taken from the MWIR (if a WTWBIR mixed waste stream was not in MWIR, the sites were consulted). The IDB was used to generate the WIPP radionuclide inventory. Each waste stream is defined in a waste stream profile and has been assigned a waste matrix code (WMC) by the DOE TRU waste generator/storage site. Waste stream profiles with WMCs that have similar physical and chemical properties can be combined into a waste matrix code group (WMCG), which is then documented in a site-specific waste profile for each TRU waste generator/storage site that contains waste streams in that particular WMCG.

Based on methodology presented in this WTWBIR, a maximum of 11 site-specific waste profiles have been identified for contact-handled (CH) TRU waste and a maximum of 11 have been identified for remote-handled (RH) TRU waste for each site. Each of these site-specific waste profiles have unique WMCG criteria and they are developed, if appropriate, for each of the TRU waste generator/storage sites. A particular site-specific waste profile, with a specific WMCG, can be combined with other site-specific waste profiles having identical WMCGs from the TRU waste generator/storage sites to derive a WIPP waste profile.

The anticipated inventory of TRU waste is defined as the sum of retrievably stored waste (waste generated after 1970) plus currently projected TRU waste volumes. The anticipated inventory for CH-TRU waste is not sufficient to fill the maximum allowed capacity of WIPP (calculated: 6.2 million cubic feet [$\approx 176,000$ cubic meters]), and scaling has been developed as a means for Sandia National Laboratories' model to examine the impacts of the full repository. Scaling has also been applied to the RH-TRU inventory since sufficient volume has not been identified in the anticipated RH-TRU inventory to fill WIPP to the RH-TRU design capacity (≈ 7080 cubic meters). Additionally, there is a high uncertainty in and a current lack of data on wastes produced from decontamination and decommissioning (D&D) and environmental restoration (ER) activities. Therefore, the anticipated CH-TRU inventory has been "scaled" to the maximum allowed WIPP capacity and the RH-TRU to the design capacity. The scaling of the inventories in this and future revisions of the WTWBIR will be derived from the best available data and assumptions.

An example of five waste streams at two sites (Figure 3-2 in the main body of the report) has been used to illustrate the waste profile methodology. Total WIPP inventory volumes for the WIPP waste profiles are provided.

Using the same waste profile methodology, the WTWBIR also estimates the WIPP disposal inventory (anticipated inventory that has been scaled to WIPP design capacity) in terms of 10 waste material parameters and additional packaging materials that have been identified as inputs needed for the system prioritization methodology (SPM) and performance assessment (PA) calculations. The 10 waste material parameters and additional packaging materials are waste constituents that occur in TRU waste and are input parameters for one or more SPM and PA models or are required to adequately describe the waste form. These parameters may change as a result of SPM and PA efforts.

The 10 waste material parameters have been grouped by their chemical/physical properties and are indicated in bold lettering. The 10 waste material parameters and additional packaging materials that are defined and included in the WTWBIR are:

- Inorganics
 - **Iron-based metals/alloys**
 - **Aluminum-based metals/alloys**
 - **Other metals**
 - **Other inorganic materials**
- Organics
 - **Cellulosics**
 - **Rubber**
 - **Plastics**
- Solidified Materials
 - **Inorganic matrix**
 - **Organic matrix**
- Soils
- Packaging Materials
 - **Steel**
 - **Plastic**
 - **Lead**

The waste material parameter information is reported in kilograms per cubic meter of waste matrix (kg/m^3). The waste material parameters in the waste stream, site-specific, and WIPP waste profiles are expressed on a weight/volume basis. However, the occurrence of more than one waste material parameter at the maximum value within a waste stream is highly unlikely. If needed, during SPM and PA (Tables 5-1 and 5-2) calculations, the sampling statistics (if used) must be controlled so that several waste material parameters do not get sampled all at their maximum value (weight/volume), lest the average weight/volume is exceeded. To illustrate the waste profile methodology, five waste streams from two sites are used as examples. This revision of the WTWBIR provides a diskette that contains the WIPP TRU Waste Baseline Inventory Database in Microsoft Access®.

Although the initial purpose of this report is to provide data to be included in the Sandia National Laboratories/New Mexico SPM and PA processes, all data are presented and explained in such a way that they can be adapted as needed for other applications. The WTWBIR, Revision 1, is presented in three parts: Volume 1 contains this Executive Summary through Chapter 9 and the WTWBID diskette; Volume 2 contains Appendix A, Waste Stream Profiles; and Volume 3 Appendices B through J.

1. INTRODUCTION

1.1 BACKGROUND

The Waste Isolation Pilot Plant (WIPP) is a transuranic (TRU) waste management facility operated by the U.S. Department of Energy (DOE). The WIPP is currently identified as the permanent disposal site for DOE TRU waste.

TRU waste is defined as waste that is contaminated with alpha-emitting radionuclides with an atomic number greater than 92, with half-lives greater than 20 years, and concentrations of TRU isotopes greater than 100 nanocuries per gram of waste (DOE, 1988). TRU wastes are classified as either contact-handled (CH) waste or remote-handled (RH) waste, depending on the dose rate at the surface of the waste container. CH-TRU wastes are packaged TRU wastes with an external surface dose rate of 200 millirems (mrem) or less per hour, while RH-TRU wastes are packaged TRU wastes with an external surface dose rate exceeding 200 mrem per hour. Unless otherwise indicated, for purposes of this document, all references to TRU waste include TRU waste and mixed TRU waste (waste that contains both radioactive and hazardous components, as defined by the Atomic Energy Act and the Resource Conservation and Recovery Act [RCRA] as codified in Title 40 Code of Federal Regulations [CFR] Parts 264, 265, 268, and 270 [EPA, 1980a; 1980b; 1986; and 1983]).

The DOE is committed to demonstrating compliance with all applicable regulations prior to permanent disposal of TRU wastes in the WIPP repository. These regulations are the environmental standards for management and disposal of TRU wastes as mandated in 40 CFR Part 191 (EPA, 1993) and Part 194 (DOE, 1995), and the RCRA regulations. Compliance will be demonstrated through Sandia National Laboratory/New Mexico (SNL/NM) performance assessment (PA) calculations based on the inventory of existing and currently projected waste streams developed in this document, as reported by the DOE TRU waste generator/storage sites. The WIPP is scheduled to receive and dispose of TRU wastes from 10 major and several minor DOE TRU waste generator/storage sites (see Figure 1-1).

1.2 PURPOSE

The purpose of this report, the *Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report* (WTWBIR), is to document the disposal inventory of TRU waste to be emplaced in WIPP as defined by the DOE TRU waste generator/storage sites. This inventory of CH-TRU and RH-TRU waste will be used in the SNL/NM systems prioritization methodology (SPM)/PA calculations and sensitivity analyses that will support the development of compliance applications to the appropriate regulatory agencies regarding the operations and post-closure timeframes of the WIPP repository.

To accomplish this purpose, the WTWBIR has been developed from the best available information and process knowledge provided by the DOE TRU waste generator/storage sites. In support of SPM/PA, the WTWBIR describes a process for grouping individual waste streams with similar physical and chemical properties into waste profiles, based on their waste matrix code (WMC) (DOE, 1993a) assigned by the DOE TRU waste generator/storage sites. Waste profiles with similar WMCs, are then combined across the DOE TRU waste system to provide estimated total volumes and total waste material parameters. The methodology for this grouping and combining is discussed in detail in Section 2.3, Methodology for Development of Disposal Inventory.

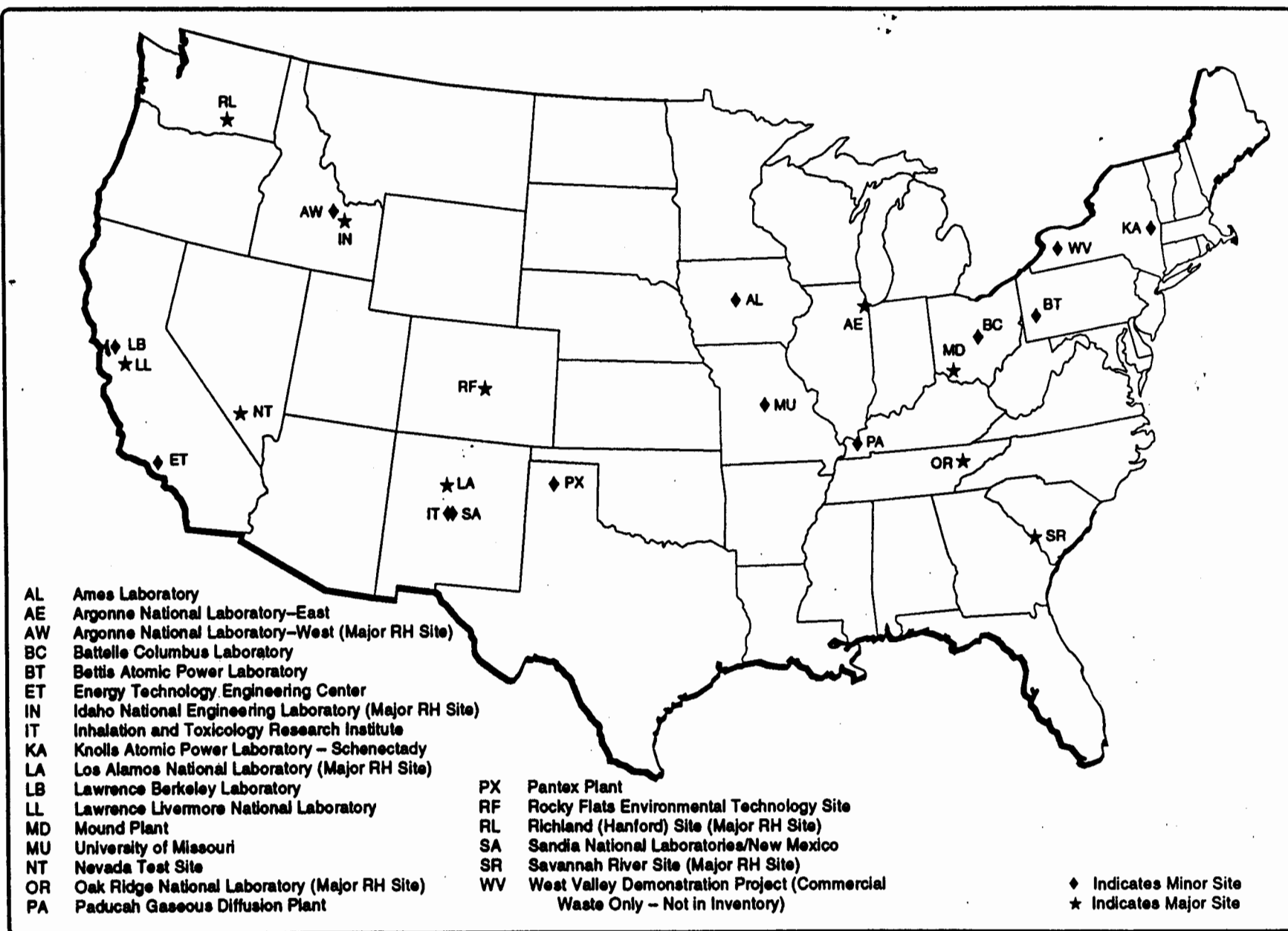


Figure 1-1. U.S. Department of Energy Transuranic Waste Generator/Storage Sites.

The individual waste streams also are evaluated to estimate the occurrence and quantities of non-radioactive waste material parameters as defined in Appendix C and listed in Table 1-1 (e.g., cellulose, plastics, iron-based metals/alloys, etc.) that have been identified by SNL/NM as being potentially important to the performance of the WIPP repository. The methodology, assumptions, and totals of these waste material parameters are described in Chapter 5, Waste Material Parameters.

**TABLE 1-1. TECHNICAL DATA NEEDS FOR SYSTEMS PRIORITIZATION
METHODOLOGY/PERFORMANCE ASSESSMENT WASTE MATERIAL PARAMETERS**

| Waste Material Parameter | Input Variable in Current SPM/PA Models | | Input Variable in SPM/PA Models Under Development | Input Variable in Possible Future SPM/PA Models |
|------------------------------|---|----------------------------|---|---|
| | Gas Generation | Mechanical Characteristics | | |
| Iron-Based Metals/Alloys | YES | YES | YES | YES |
| Aluminum-Based Metals/Alloys | YES ⁽²⁾ | YES | YES | YES |
| Other Metals | | YES | | YES |
| Other Inorganic Materials | | YES | YES | YES |
| Cellulose | YES | YES | YES | YES |
| Plastics | YES ⁽²⁾ | YES | YES | YES |
| Rubber | YES ⁽¹⁾ | YES | YES | YES |
| Solidified Inorganic Matrix | | YES | YES | YES |
| Solidified Organic Matrix | | YES | YES | YES |
| Soils | | YES | | |

(1) Only 50 weight percent included

(2) Added for SPM-2 (Sanchez, 1995)

The information/data presented in this report is derived from the WIPP Transuranic Waste Baseline Inventory Database (WTWBID). The only currently defined application of the WTWBID in this revision of the WTWBIR is in support of the SPM/PA calculations. However, the WTWBID can support other projects and applications requiring waste information in formats different than that used in the WTWBIR. The WTWBID structure and a data dictionary are included in Chapter 7 of this report.

1.3 WASTE INVENTORY TERMINOLOGY

The derivation of a disposal inventory from individual waste streams is a formidable and complex process. To document each step of this process, a system of waste inventory terminology needs to be defined so the reader may more easily follow the process. The following sections provide definitions of terminology used throughout the WTWBIR. These definitions also are summarized in Chapter 8, Glossary. A list of acronyms and abbreviations used are provided in the front of the document.

1.3.1 Inventory Terminology

Stored Inventory – That part of the TRU inventory currently in retrievable storage at the time of the last data call for inventory information is known as "stored inventory." For Revision 1, stored waste includes that waste in storage as of December 31, 1993. Retrievably stored waste includes waste stored since approximately 1970 in buildings or in berms with earthen cover and **does not include any waste that was buried prior to 1970** (DOE, 1994b).

Projected Inventory – That part of the TRU inventory that has not been generated but is currently estimated to be generated at some time in the future by the TRU waste generator/storage sites is considered "projected inventory." Because of the uncertainty associated with ER and D&D waste inventory projections, the ER and D&D wastes are not included in the projected inventory. For Revision 1, a projected inventory includes waste scheduled for generation between calendar years (CY) 1994 and 2022. "Newly generated waste" also is sometimes used as a synonym for the projected inventory.

Anticipated Inventory – For the WTWBIR, this is the sum of the stored and projected inventories, calculated:

$$\begin{array}{ccccc} \text{Stored} & & \text{Projected} & & \text{Anticipated} \\ \text{Inventory} & + & \text{Inventory} & = & \text{Inventory} \end{array}$$

Scaling – The process for adjusting, if needed, the projected inventory to the design limit (disposal inventory) of the WIPP repository is called "scaling." Section 2.3, describes the scaling process used for developing the WTWBIR.

$$\text{Projected Inventory} \xrightarrow{\text{Scaling}} + \text{Stored Inventory} = \text{Disposal Inventory}$$

Disposal Inventory – The total design ($\approx 176,000 \times 10^5 \text{ m}^3$ for CH-TRU and 7080 m^3 for RH-TRU) inventory defined for WIPP emplacement (after scaling, if necessary) to be used for SPM and PA calculations is the "disposal inventory."

1.3.2 Waste Matrix Code Terminology

Waste Matrix Code (WMC) - The WMCs were developed by DOE, in response to the Federal Facilities Compliance Act (FFCA)(Public Law 102-386, 1992), as a methodology to aid in classifying mixed waste streams in the DOE system into a series of four-digit codes (e.g., 5400; Heterogeneous Waste) that represent different physical/chemical matrices. The WMC is assigned

by the TRU waste generator/storage sites. The WTWBIR has adopted this system to remain consistent with the Mixed Waste Inventory Report (MWIR)(DOE, 1994a) which was a database-derived report to meet the first deliverable under the FFCAct. The WMC methodology has been applied to nonmixed TRU waste streams for consistency.

Waste Matrix Code Group (WMCG) – A WMCG consists of a series of WMCs that for SPM or PA purposes have similar physical and chemical properties. An example of combining three WMCs which either contain particulates or are cemented particulate waste is presented below:

| | | |
|--|---|-----------------------|
| WMC 3100 (inorganic process residues) | } | Solidified Inorganics |
| WMC 3110 (inorganic particulates) | | |
| WMC 3150 (solidified process residues) | | |

Because of the restriction on particulate wastes in the *TRU Waste Acceptance Criteria (WAC) for the Waste Isolation Pilot Plant*, Revision 4 (DOE, 1991), all particulate waste will usually be immobilized prior to shipment to WIPP. Therefore, all three of these WMCs would be the same basic waste form when emplaced in WIPP and have similar physical and chemical properties. The combined WMCG for this example is solidified inorganics. Table 1-2 presents all anticipated WMCs for TRU waste and indicates in which WMCG each WMC occurs for the WTWBIR. There are 11 WMCGs used in this WTWBIR. The last two rows in Table 1-2 group WMCs that will not be accepted at WIPP unless additional characterization and/or processing occurs to meet the WIPP WAC (DOE, 1991).

1.3.3 Waste Profile Terminology

Waste Stream Profile – This is a description of a CH-TRU or RH-TRU waste stream potentially destined for shipment to and disposal in WIPP, if authorized under permits and certifications by appropriate regulatory agencies. The waste stream profile is presented in tabular format and is intended to provide a summary of important information about a particular waste stream. Examples of information included in a waste stream profile are:

- Currently used identification codes, including the DOE TRU waste site matrix description;
- WMC assigned by the TRU waste generator/storage sites;
- Volumes of waste currently in retrievable storage and waste projected to be generated: estimated minimum, average, and maximum weights of waste material parameters per cubic meter of waste volume (e.g., iron-based metals/alloys, aluminum-based metals/alloys, cellulose, etc.);
- Indication as to whether the waste is CH-TRU or RH-TRU; and
- Hazardous waste codes (EPA codes) from MWIR or as assigned by the DOE TRU waste generator/storage sites for the RCRA regulated portion of the waste stream. Some waste streams (waste stream profiles) contain hazardous waste codes that would not be currently acceptable for disposal in WIPP (e.g., D001, D002, and D003) under the most recent WIPP Part B Permit Application (DOE, 1993b). These hazardous waste codes are applied to the waste in its current physical form. These waste streams will have to be treated for any unacceptable hazardous waste codes prior to transport to WIPP for disposal.

TABLE 1-2. WASTE MATRIX CODE GROUP NAMES

| Waste Matrix Code Group | Waste Matrix Codes |
|---|--|
| Solidified Inorganics | 1000 ¹ , 1100 ¹ , 1110 ¹ , 1120 ¹ , 1130 ¹ , 1140 ¹ , 1190 ¹ , 1200 ¹ , 1210 ¹ , 1220 ¹ , 1230 ¹ , 1240 ¹ , 1290 ¹ , 3000 ² , 3100, 3110 ³ , 3111 ³ , 3112 ³ , 3113, 3115 ³ , 3116 ³ , 3119 ³ , 3120, 3121, 3122, 3123, 3124, 3125, 3129, 3130, 3131 ³ , 3132 ¹ , 3139 ^{1 or 3} , 3150, 3190, 3900 ² , 6100 ⁴ , 6120 ⁵ , 6130 ⁶ , 6140 ⁵ , 6190 ⁴ , 6200 ⁷ , 6210 ⁸ , 6230 ⁸ , 6290 ⁷ , 7300 ³ , 9100 ² , 9200 ² |
| Salt Waste | 3000 ² , 3140, 3141, 3142, 3143, 3149, 3900 ² |
| Solidified Organics | 2000 ¹ , 2100 ¹ , 2110 ¹ , 2120 ¹ , 2190 ¹ , 2200 ¹ , 2210 ¹ , 2220 ¹ , 2290 ¹ , 2900 ¹ , 3000 ² , 3114, 3200, 3210, 3211, 3212, 3213, 3219, 3220, 3221, 3222, 3223, 3229, 3230, 3290, 3900 ² , 6100 ⁴ , 6110 ⁵ , 6190 ⁴ , 6200 ⁷ , 6290 ⁷ , 9100 ² , 9200 ² |
| Soils | 4000, 4100, 4200, 4900 |
| Uncategorized Metal (Metal Waste Other Than Lead and/or Cadmium) | 5000 ⁹ , 5100, 5110, 5190, 6200 ⁷ , 6220 ⁸ , 7000 ¹⁰ , 7490 ¹¹ , 9300 ¹⁰ |
| Lead/Cadmium Metal | 5000 ⁹ , 5120, 5130, 6200 ⁷ , 6220 ⁸ , 7000 ¹⁰ , 7200, 7210, 7220, 7400 ¹¹ , 7410 ¹¹ , 7420 ¹¹ , 9300 ¹⁰ |
| Inorganic Non-Metal Waste | 5000 ⁹ , 5200, 5210, 5220, 5230, 5240, 5290 |
| Combustible | 5000 ⁹ , 5300, 5310, 5311, 5312, 5313, 5319, 5320, 5330, 5390 |
| Graphite | 5000 ⁹ , 5340 |
| Heterogeneous | 5000 ⁹ , 5400, 5420, 5430, 5440, 5450, 5490, 6200 ⁷ , 6220 ⁸ , 6290 ⁷ |
| Filter | 5000 ⁹ , 5410 |
| Excluded Waste Streams¹² | 5250, 5350, 6300, 6400, 7100 |
| Unknown¹³ | 8000, 8100, 8200, 8900 |

TABLE 1-2. WASTE MATRIX CODE GROUP NAMES (CONTINUED)

- ¹ Liquid waste streams are assumed to be solidified prior to sending to WIPP.
- ² WMCs 3000, 3900, 9100, and 9200 are placed in "solidified inorganics," "salt waste," or "solidified organics," depending on the information provided by the TRU waste generator/storage site.
- ³ Particulate waste streams are assumed to be solidified prior to sending to WIPP.
- ⁴ WMCs 6100 and 6190 are placed in "solidified organics," or "solidified inorganics," depending on the information provided by the TRU waste generator/storage site.
- ⁵ Liquid lab pack waste is assumed to be solidified prior to sending to WIPP.
- ⁶ Solid lab packs are assumed to be solidified prior to sending to WIPP.
- ⁷ WMCs 6200 and 6290 are placed in "solidified organics," "solidified inorganics," or "heterogeneous" if the waste stream must be solidified per the generator/storage site. They are placed in "uncategorized metal," or "lead/cadmium metal waste" if they are primarily nonreactive metal contaminated with reactive metal. Reactive waste streams must be treated prior to shipment to WIPP.
- ⁸ Waste stream is assumed to be treated prior to sending to WIPP. Volume change is provided by the TRU waste generator/storage site.
- ⁹ WMC 5000 is placed in "uncategorized metal," "lead/cadmium metal," "inorganic non-metal," "combustible," "graphite," "heterogeneous," or "filter," depending on the information provided by the generator/storage site.
- ¹⁰ WMC 7000 and 9300 are placed in "uncategorized metal" or "lead/cadmium metal," depending on the information provided by the generator/storage site.
- ¹¹ WMCs 7400, 7410, 7420, and 7490 are assumed to be drained of liquid and contain only metal waste.
- ¹² These waste streams are excluded from disposal in WIPP at this time, e.g., PCB and asbestos wastes (see Table 3-2).
- ¹³ If adequate information is provided by the generator/storage site, these WMCs are changed. If there is not enough information, these waste streams remain as "unknown" and are excluded from disposal in WIPP until characterized.

- Comments provided by the TRU waste generator/storage sites to further explain the data provided.
- Footnotes generated by the WTWBIR team to explain information provided by the generator/storage sites.
- TRUPACT-II Content (TRUCON) Codes (DOE, 1992) and No Migration Variance Petition (NMVP) (DOE, 1990) identifiers.

Figure 1-2 provides an example of a blank waste stream profile form. The methodology for developing waste stream profiles is provided in Chapter 3 and printouts of TRU waste stream profiles are provided in Appendix A.

Site-Specific Waste Profile – This represents a WMCG at a particular DOE TRU waste generator/storage site. That is, one or more waste stream profiles at a particular DOE TRU waste site, that have been placed in the same WMCG, are summarized in the site-specific waste profile. Examples of information included in a site-specific waste profile are:

- DOE TRU waste generator/storage site identification;
- The WMCG that the profile represents;
- Listing of the waste streams (represented by waste stream profiles provided by the TRU waste generator/storage sites) that are included in the site-specific waste profile, including the waste stream identification;
- Volumes of stored and currently projected waste; and
- Summary of minimum, volume weighted average, and maximum weights of waste material parameters per cubic meter of waste volume (e.g., iron-based metals/alloys, aluminum-based metals/alloys, cellulose, etc.).

Figure 1-3 provides an example of a blank site-specific waste profile form. The methodology for developing site-specific waste profiles is provided in Chapter 3 and printouts of TRU site-specific waste profiles are provided in Appendix B.

WIPP Waste Profile – The WIPP waste profile represents a summary of TRU waste at all DOE TRU waste generator/storage sites that have an identical WMCG. Examples of information included in a WIPP waste profile are:

- Profile name;
- The WMCG that the profile represents;
- Listing of the DOE TRU waste sites (represented by the same WMCG) that are included in the WIPP waste profile, including the name of the DOE TRU waste site;
- Volumes of stored and currently projected waste for each site for the particular WMCG represented; and
- Summary of minimum, volume weighted average, and maximum weights of waste material parameters per cubic meter of waste volume (e.g., iron-based metals/alloys, aluminum-based metals/alloys, cellulose, etc.).

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WASTE TYPE HANDLING GENERATOR SITE

| | | | | |
|----------------------------|----------------------|----------------------|--------------------|----------------------|
| WASTE STREAM | MWIR ID | <input type="text"/> | STREAM NAME | <input type="text"/> |
| | WIPP ID | <input type="text"/> | | |
| | Local ID | <input type="text"/> | DESCRIPTION | |
| MATRIX CODE | <input type="text"/> | | | |
| SITE FINAL FORM IDC | <input type="text"/> | | | |
| Waste Matrix Code Group | | <input type="text"/> | | |
| Site Matrix Description | | <input type="text"/> | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT **TRUCON CODE**

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | |
|-----------------------|--------------------------|-------------------|--------------------------|---------------------------|--------------------------|------|----------|--------------------------|
| Defense TRU Waste | <input type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | |

Figure 1-2. Blank Waste Stream Profile Form

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME

WASTE TYPE

HANDLING

GENERATOR SITE

CONTAINER:

Type/Size:

Container Matl:

Int. Vol/Ctnr: m3

Liner Type:

Liner Material:

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

Material Parameters

Iron-based Metals/Alloys
Aluminum-Based Metals/Alloys
Other Metals
Other Inorganic Materials
Cellulosics
Rubber
Plastics
Solidified, Inorganic matrix
Solidified, Organic matrix
Soils
Packaging Materials, Steel
Packaging Material, Plastic

Average

Lower Limit

Upper Limit

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | | | m3 |
| End of 1993: | | | m3 |
| 1994: | | | m3/yr |
| 1995: | | | m3/yr |
| 1996: | | | m3/yr |
| 1997: | | | m3/yr |
| 1998-2002: | | | m3/yr |
| 2003-2022: | | | m3/yr |

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity

TYPICAL EPA CODES APPLICABLE

1-10

Figure 1-2. Blank Waste Stream Profile Form (continued)

Site-Specific Contact Handled Waste Profiles

Site Name:**Final Waste Form:**

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
|------------------------|------------------------------------|-----------------------|-------------------|

Total Volume:

| <u>Material Parameters (kg/m3)</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|----------------|----------------|----------------|
| Inorganics | | | |
| Iron Based | | | |
| Aluminum Based | | | |
| Other Metals | | | |
| Other Inorganics | | | |
| Organics | | | |
| Cellulose | | | |
| Rubber | | | |
| Plastics | | | |
| Solidified Materials | | | |
| Inorganic | | | |
| Organic | | | |
| Soils | | | |

Figure 1-3. Blank Site-Specific Waste Profile Form

Figure 1-4 provides an example of a blank WIPP waste profile form. The methodology and assumptions for developing WIPP waste profiles and printouts of the WIPP profiles are provided in Chapter 3.

1.3.4 Database Terminology

Mixed Waste Inventory Report (MWIR) – The MWIR refers to the latest release of information from the MWIR database that supports requirements under the FFCAct of 1992 (Public Law 102-386). The latest version of the MWIR documentation/files is *Distribute [Distribution] of Phase II Mixed Waste Inventory Report Data*, dated May 17, 1994 (DOE, 1994a).

Integrated Data Base (IDB) – The IDB refers to the latest version of the Integrated Data Base: U.S. Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics (DOE, 1994b).

WIPP Transuranic Waste Baseline Inventory Database (WTWBID) – The WTWBID is the database specifically developed to support the WTWBIR and any other applications that might need waste information on a waste-stream basis or for higher-level roll-ups.

1.3.5 Other Terminology

Waste Material Parameter – This is one or more nonradioactive waste constituents that occur in a TRU waste stream that is an input parameter into one or more current SPM or PA models, an SPM or PA model under development, a potential future model, or is required to adequately describe the waste form (see Appendix C). The 10 waste material parameters have been grouped by their chemical/physical properties and are indicated in bold lettering. The 10 waste material parameters and additional packaging materials that are reported in densities and included in the WTWBIR are:

- Inorganics
 - **Iron-based metals/alloys**
 - **Aluminum-based metals/alloys**
 - **Other metals**
 - **Other inorganic materials**
- Organics
 - **Cellulosics**
 - **Rubber**
 - **Plastics**
- Solidified Materials
 - **Inorganic matrix**
 - **Organic matrix**
- Soils
- Packaging Materials
 - **Steel**
 - **Plastic**
 - **Lead**

Definitions for these waste material parameters can be found in Chapter 5.

WIPP Contact Handled Waste Profiles

Final Waste Form:

| Site | Retrievably Stored (m3) | Projected (m3) | Total (m3) |
|-----------------------------|----------------------------|----------------|------------|
| <hr/> | | | |
| Total Volume | | | |
| <hr/> | | | |
| Material Parameters (Kg/m3) | | | |
| | Maximum | Average | Minimum |
| Inorganics | Iron Based | | |
| | Aluminum Based | | |
| | Other Metals | | |
| | Other Inorganics | | |
| Organics | Cellulose | | |
| | Rubber | | |
| | Plastics | | |
| Hazardous Materials | Inorganic | | |
| | Organic | | |

Figure 1 - 4. Blank WIPP Waste Profile Form

1.4 OBJECTIVES

The objectives of the WTWBIR are threefold:

1. **Establish a consistent DOE complex-wide methodology for grouping wastes of similar physical and chemical composition.** A consistent methodology, in support of SPM/PA, for grouping TRU wastes of similar physical and chemical properties into "waste profiles" will provide a common frame of reference for discussion of TRU waste issues with regulatory organizations.
2. **Define the anticipated disposal inventory of TRU wastes destined for WIPP.** The anticipated inventory of CH-TRU and RH-TRU wastes is defined as the sum of the existing volumes of stored and currently projected waste streams at each of the TRU waste generator/storage sites. The design capacities of WIPP are calculated as follows:
 - Maximum CH-TRU capacity = 6.2 million cubic feet (~176,000 cubic meters) (Public Law 102-579, 1992),
 - RH-TRU design capacity = 7080 cubic meters = 7955 canisters x 0.89 cubic meters/canister

Scaling of the CH-TRU and RH-TRU waste projected inventories is necessary to attain the WIPP design limit. There is a high level of uncertainty in and a current lack of data on waste produced by decontamination and decommissioning (D&D) and environmental restoration (ER) activities. Therefore, the projected inventory has been scaled to the WIPP capacity (disposal inventory). The scaling of the inventory in this and future revisions of the WTWBIR is derived from the best available data and assumptions.

3. **Calculate the disposal inventory in terms of waste material parameters.** Several waste material parameters (e.g., iron-based metals/alloys, rubber, plastics, etc.) have been identified by SNL/NM as being potentially significant in relation to the performance of the WIPP repository (see Table 1-1). Calculating the WIPP disposal inventory in terms of these parameters provides input for the SPM and PA calculations and sensitivity analyses needed to determine compliance with federal standards.

1.5 TRU SYSTEM-WIDE DATA ASSUMPTIONS

As stated earlier, the WTWBIR was developed using the best available information from the TRU waste generator/storage sites. Some sites used different assumptions and methodologies for reporting its waste stream data. Because of these differences, the WTWBIR team had to make assumptions and take specific steps to ensure consistency among the sites' reported data. This section addresses the system-wide assumptions and actions taken by the WTWBIR team in rolling up the waste stream data. For a description of site-specific assumptions, see Appendix A.

1.5.1 Waste Material Parameter Assumptions

The waste material parameter information reported by the sites must be summed and averaged to obtain data at the site-specific and WIPP waste profile levels. For some waste streams, however, not all of the waste parameter data were available from the sites. In order to calculate

material parameters from the waste stream data provided by the sites, the following assumptions were made by the WTWBIR team:

- If only the average waste material value was provided for a specific waste stream, the average value was assigned to the minimum and maximum values.
- If the maximum value was provided and the minimum value was zero, the average value was computed as half of the maximum value.
- If only the minimum value was provided, the minimum was assigned to both the maximum and average values.
- If only the final waste form group was provided, the average set of parameters was calculated by volume averaging the parameters from other waste streams of the same final waste form group.

Waste material parameter data contained in the body of this report are based on these assumptions, whereas, individual waste stream profiles included in Appendix A contain the original, unchanged data as reported by the generator/storage sites.

1.5.2 Inventory Volume Assumptions

Other assumptions had to be made by the WTWBIR team to ensure consistency in WIPP inventory volumes:

- The volume reported for the years 1992 and 1993 was supposed to be cumulative, whereas, the values for the remaining years were to be reported as generation volume per year. Since not all of the sites reported their inventory in this manner, the WTWBIR team had to recalculate the volumes provided to attain a cubic meter/year basis for some waste stream volumes;
- Many sites did not provide final waste form volumes. Final waste form volumes are used in determining the overall WIPP inventories. In those instances, the WTWBIR team assumed that the reported, current volume would be the same as the final waste form volume.

1.5.3 Packaging Material Assumptions

The TRU waste container data was not reported consistently. While most did, many of the sites did not provide data for final form in WIPP approved containers. Some reported their waste in current containers while others did not provide container information. Adjustments had to be made to the data to:

- Achieve consistency at the waste stream level in the presentation of data in the waste stream profiles (Appendix A)
- Produce the upper-level waste packaging rollups needed by SPM/PA as inputs to the modeling activities.

Waste Profile Assumptions

The WTWBIR team assigned the TRUCON and NMVP codes based on the best available information. Each waste stream profile in Appendix A was reviewed for consistency in reporting packaging configurations. In cases where incomplete information was submitted by the TRU

sites, clarifications were requested from the TRU waste generator/storage sites. In those cases where clarifications were not received from the TRU sites, the following assumptions were made, concerning the waste stream profiles:

- If the site provided final form containers, the final form containers (i.e., drums, standard waste boxes [SWB], or RH canisters) were used.
- In some cases where final waste form containers were not provided a 55-gallon drum was assumed.
- If a particular waste container was reported by the sites (but no further information was provided) or was assigned by the WTWBIR team (e.g., 55-gallon drum), "standard" values of the waste container properties (see Table 1-3) were added to the waste profile forms. An example of this process is listed below for a reported 55-gallon drum without any additional information:
 - Type of material used to fabricate the waste container (steel)
 - The internal volume of the container (0.208 m^3)
 - Inclusion of a "standard" density for the container (131 kg/m^3).
- If sites reported a "plastic" or "rigid" liner without any further definition of the liner then the values in Table 1-3 were used in the waste stream profiles:
 - A 90-mil high density polyethylene (HDPE) liner was assumed
 - The density for that type of liner was assumed (37 kg/m^3).
- If the container fields called "Number Stored" and "Number Projects" are left blank, it is because of one of the following reasons:
 - There is a change from one type of waste container to another on the waste profile form page 2 (different internal container volumes) and therefore the number of containers stored and projected represent different volumes and a direct comparison is not possible.
 - There is an unresolved discrepancy between the number of containers and the volumes quoted on the waste stream profile. It has been assumed that the waste volumes are the most accurate information provided by the TRU waste sites.

For CH-TRU waste containers, the following assumptions were also made:

- If waste was reported in containers larger than drums, then the waste was divided into SWBs with standard plastic bag liners. The standard internal volume for SWBs (Table 1-3) and the reported waste stream volume were used to determine the number of SWBs.
- If the waste was reported in a liquid or sludge form (i.e., tanks), the WTWBIR team assumed that the waste will be placed in drums with rigid liners. No treatment volume expansion was included unless reported as such by the sites.

For RH-TRU waste, the following assumptions were made:

- If the waste was reported in drums, the drums were assumed to be overpacked in RH canisters at three drums per canister.
- If the waste was not reported to be in drums, the waste was assumed to be direct loaded into RH canisters. The standard internal volume for RH canisters and the reported waste stream volume were used to determine the number of RH canisters.
- The lead in the RH canister (465 kg/m^3) is assumed in the packaging rollups even if it is not stated on each RH waste stream profile.

Table 1-3. Packaging Material Assumptions

| Container Configuration | Steel (kg/m^3) | Plastic (kg/m^3) | Lead (kg/m^3) | Volume (m^3) |
|---|------------------------------|--------------------------------|-----------------------------|----------------------------|
| 55-gallon drum | 131 | 37 | N/A | 0.208 |
| SWB (direct load) | 154 | 1.2 | N/A | 1.89 |
| SWB (overpack) (4 55-gallon drums) | 210 | 16 | N/A | 1.89 |
| RH-TRU Canister | 435 | 0 | 465 | 0.89 |
| RH-TRU Canister (overpack of 3 55-gallon drums) | 527 | 26 | 465 | 0.89 |

Assumptions to Produce Packaging Estimates on a System-Wide Basis

In order to add up the packaging materials for the waste as it would arrive at WIPP, the following standard container configuration was used for computing waste packaging materials from all sites. If the site provided final waste form containers, the final form containers (i.e., drums, standard waste boxes [SWB], or RH Canisters) were used, but standard liners were assumed. This was done because many sites did not provide liner information. The inclusion of standard liners produces a conservative estimate for PA and SPM calculations.

1.5.4 Radionuclide Information Assumptions

There are some waste streams from TRU waste sites which report for some waste streams incomplete radionuclide information (e.g., some show mixed fission products but no transuranic isotopes). These waste streams are expected to be demonstrated to be TRU upon completion of the radionuclide characterization.

The waste stream profiles provided in Appendix A contain waste stream specific radionuclide information, if provided by the TRU waste sites. Some sites provided only isotopic mixes, which are explained in Appendix H.

1.5.5 Comparison of IDB versus WTWBIR Waste Volumes

Differences occur between the waste volumes reported in the draft Revision 10 of the IDB (Appendix I) and those reported in Chapter 6 on a site level. Listed below is the currently-known logic for some of the differences:

- In the IDB, 40% of the INEL CH-TRU waste and 50% of the Hanford CH-TRU waste reported is assumed to be low-level waste by INEL and Hanford and is not included in the WTWBIR
- Some of the projected waste at ANL-E in the WTWBIR is accounted for in the Hanford projections. This is not the case for the IDB.
- The ANL-W waste reported for WTWBIR is included in the INEL IDB waste volumes.
- The totals for SRS CH-TRU and RH-TRU projected waste volumes in the draft Revision 10 IDB are in error. The corrected IDB total projected CH-TRU is 13,700 m³ and for RH-TRU, 35.9 m³.

These inconsistencies and others between the WTWBIR and IDB for TRU waste volumes is a main focus of the Revision 2 data update of the WTWBIR.

1.6 BASELINE INVENTORY UPDATES

The WTWBIR represents the best available TRU waste inventory information in support of the WIPP Project. It is anticipated that the WTWBIR will be updated periodically. This update cycle will be modified based on the availability of additional waste information or the data needs of the WIPP Project as determined by the DOE.

1.7 DOCUMENT ORGANIZATION

The WTWBIR is organized into chapters of text, figures, tables and supporting appendices. It flows from specific, detailed TRU waste information (provided by the TRU waste generator/storage sites) to the top level development and description of waste profiles and waste material parameters. The contents of remaining chapters in this document are summarized below:

- Chapter 2 discusses the methodology used to define the TRU waste disposal inventory.
- Chapter 3 outlines the methodology used to derive waste stream profiles, site-specific waste profiles, and WIPP waste profiles.
- Chapter 4 provides the WIPP disposal radionuclides inventory. The methodology used for deriving the inventories is also included.
- Chapter 5 rolls up the waste material parameter information assigned at the waste stream profile level in Chapter 3 to obtain parameter totals. These totals are presented as parameter weights per volume.
- Chapter 6 presents stored and projected CH-TRU and RH-TRU inventories by site and a system-wide rollup of CH-TRU and RH-TRU volumes.
- Chapter 7 contains a description of the WTWBIR and a data dictionary.
- Chapter 8 contains a glossary of important terms used in this document.
- Chapter 9 lists references cited in the WTWBIR.
- Several appendices also are provided to either present more detailed waste inventory information or to describe the methodology in more detail. The appendices are provided in Volumes 2 and 3 of this WTWBIR.

2. TRU WASTE DISPOSAL INVENTORY

2.1 INTRODUCTION

The TRU waste disposal inventory is derived from existing information on waste, which has been provided by the DOE TRU waste generator/storage sites and is predominately based on process knowledge. In addition to the general process knowledge of a waste stream for nonradionuclide parameters, the radionuclide inventories from the IDB TRU waste site submittals (DOE, 1994b) are derived from non-destructive assay, with some analytical analyses (to detect isotopes that do not lend themselves to non-destructive analyses or to evaluate waste streams that cannot be effectively analyzed through non-destructive methods), and on-site accountability and tracking records of special nuclear materials including any changes of isotopic ratios during processing. This chapter is designed to assist the reader by describing the existing waste information used to derive the inventory and the methodology used to correlate and combine the existing data into a WIPP disposal inventory.

2.2 SOURCE OF TRU WASTE INFORMATION

Transuranic waste information primarily exists in two forms within the DOE TRU waste system:

- On-site documentation developed by the TRU waste generator/storage sites during the history of their operations.
- Summary reports, usually prepared to support WIPP documentation requirements. These summary reports have either been generated by the DOE area office in charge of WIPP or at the DOE-Headquarters (HQ) level. The information contained in these reports is derived from the TRU waste generator/storage sites.

2.2.1 Site-Specific Waste Information

The TRU waste generator/storage sites use a variety of on-site documents and records in order to derive the information listed in the individual waste streams in Appendix A. The documents/records can include many different sources, some of which might be the following: procurement records, waste stream process manuals, operating procedures, on-site safety documentation, process diagrams, waste production records, storage records, on-site waste database management systems, interviews with existing and former workers, transportation records, waste container tracking records, on-site documentation prepared for local, state, or regional regulators. This list is not meant to be inclusive or representative of all records used at every site. It is intended to be used for example purposes only. The number and types of documents can vary greatly from site-to-site so it is impractical to list them as references in this document.

Each DOE TRU waste site was provided, by the WTWBIR team, WTWBIR Revision 0 data packages defining the characterization of each TRU waste stream at their site. The generator/storage sites reviewed, changed, and authorized the characterization as valid for use in developing the WIPP inventory.

2.2.2 Existing Summary Documents on TRU Waste Information

In support of various programs, the DOE has published a series of documents over the years in support of various programs which contain varying amounts of waste information. Listed below are those documents that have formed the foundation of summary TRU waste information prior to the publication of the WTWBIR.

Mixed Waste Inventory Report

The FFCAct required that the DOE, within 180 days of enactment of the FFCAct, submit to the EPA Administrator and the governor of each state in which the DOE stores or generates mixed wastes a report that contains:

- National inventory of all mixed wastes, regardless of the time they were generated, on a state-by-state basis and
- National inventory of mixed waste treatment capacities and technologies.

The FFCAct also stipulated specific reporting requirements for each of these inventories. The DOE submitted the six-volume set entitled: *U.S. Department of Energy Interim Mixed Waste Inventory Report: Waste Streams, Treatment Capacities and Technologies*, DOE/NBM-1100, dated April 1993 (DOE, 1993c), to fulfill these requirements. Since issuance of the "interim" report, DOE has requested additional information from the DOE TRU waste generator/storage sites and published two updated reports entitled:

- *Release of Phase I Mixed Waste Inventory Report Data*, dated April 1, 1994 (Phase I MWIR) (DOE, 1994c), which includes a data diskette (Version .97B) and the draft *Mixed Waste Inventory Report Data Base System User's Guide*.
- *Distribute [Distribution] of the Phase II Mixed Waste Inventory Report Data*, dated May 17, 1994 (Phase II MWIR) (DOE, 1994a), which includes a data diskette (Version 1.00) and the draft *User's Guide for National Data Base System for the Final Mixed Waste Inventory Report* (May 1994).

The Phase II MWIR was the basis of the mixed waste streams that were included in Revision 0 of the WTWBIR. The DOE waste generator/storage sites have reviewed the existing waste streams from Revision 0 of the WTWBIR and have updated the information. In a very few cases mixed waste streams from the Phase II MWIR have been deleted by the generating/storage sites from Revision 1 of the WTWBIR. Any waste stream that was published in the Phase II MWIR and has a waste stream profile in the WTWBIR contains an identification code in the "MWIR ID" and "WIPP ID" fields on the waste stream profile forms (see Figure 1-2). The identification codes are assigned using the following format:

- DD-WXXX;
 - DD = Site Identification Code (from Figure 1-1)
 - XXX = Three digit numerical code assigned by DOE-HQ

Some sites have submitted "new" mixed waste streams with the Revision 1 WTWBIR data call, which were not in the Phase II MWIR. Therefore, these waste streams have not been assigned DD-WXXX identification numbers by DOE-HQ. Those mixed TRU waste streams which have been reported for the first time in Revision 1 of the WTWBIR have been designated as:

- DD-MXXX (DD and XXX have same meaning as for the MWIR waste streams, except that the three digit numerical code was assigned by the WTWBIR team)

Waste streams that are nonmixed TRU waste do not appear in the Phase II MWIR. Nonmixed TRU waste streams that appear in the WTWBIR have been designated as follows:

- DD-TXXX (DD and XXX have the same meaning as for MWIR waste streams, except that the three digit numerical code was assigned by the WTWBIR team)

INEL included some nonmixed waste streams in the Phase I MWIR which had the MWIR characteristic DD-WXXX identification. These have been retained in the WTWBIR, but all other nonmixed TRU waste streams have used the DD-TXXX designation, including some "new" nonmixed waste streams from INEL.

Integrated Data Base

The IDB (DOE, 1994b) is published by Oak Ridge National Laboratory (ORNL) for the DOE. The ORNL assembles radioactive waste inventories provided by DOE TRU waste generator/storage sites. This database does not report by waste stream, but rather, by the total inventory at each DOE site. The IDB also contains the radionuclide isotopic distribution for the waste stored at each site. Because consistent reporting is not available at the waste stream level, the radionuclide information in the IDB is the basis for the Revision 1 WTWBIR inventory for radionuclides (see Chapter 4). Where sites provided radionuclide data, it is replicated in Appendix A. A WIPP disposal radionuclide inventory is provided in Table 4-2. This table is derived from unpublished IDB submittals from the TRU waste sites.

Other Sources of TRU Waste Information

There are three additional summary documents that have been produced which contain extensive information about TRU waste. The amount and form of the documentation varies between documents due to the initial purpose for including waste information. These include:

- TRUCON (DOE, 1992) - The TRUPACT-II Content (TRUCON) Code document was developed to provide waste information to the Nuclear Regulatory Commission in support of the TRUPACT-II certification application. The TRUCON concentrated on those waste parameters that were important for safe transportation of TRU waste (e.g., thermal heat loading, criticality, free liquids, etc.)
- NMVP (DOE, 1990) - The No-Migration Variance Petition (NMVP) was developed by DOE to obtain a variance from the land disposal restrictions for mixed waste as allowed under 40 CFR 268.6 (EPA, 1986). The NMVP waste information concentrated on defining the volumes of various known TRU and MTRU waste streams in the DOE system at that time, and identifying the hazardous constituents expected to be found in the MTRU waste streams. Text was provided in the NMVP on each known waste stream at that time which summarized the process knowledge and sampling and analysis information available (many WTWBIR waste streams were not defined at the time the NMVP was developed).
- WIPP RCRA Part B Permit Application (DOE, 1993b) - This document which will be revised and submitted to obtain a Part B Permit for WIPP to the State of New Mexico. This document will represent in some parts an update of the NMVP and will incorporate much information from the WTWBIR.

TRU waste streams that are included in the TRUCON and the NMVP are cross correlated, if possible, to WTWBIR waste streams in Appendix F. The designation of each waste stream in the TRUCON and NMVP, if applicable, can be found on the waste stream profile (Figure 1-2). The WTWBIR should be considered the most current source of waste stream information when there is a discrepancy in information between the WTWBIR and the TRUCON or NMVP documents.

2.3 METHODOLOGY FOR DEVELOPMENT OF DISPOSAL INVENTORY

Development of the WIPP TRU waste disposal inventory is accomplished by a series of steps starting with the individual waste streams submitted by the TRU waste generator/storage sites that are identified in Appendix A. These waste stream profiles are grouped together, based on similar physical and chemical properties, into common "WIPP waste profiles," which should facilitate discussions concerning the disposal waste inventory with regulatory agencies and stakeholders. The waste profiles also contain information on waste material parameters that could affect the performance of the WIPP repository and that may be direct inputs to the SPM and PA models. A more detailed explanation of the waste profile methodology is found in Chapter 3.

Because the existing stored and currently projected CH-TRU waste streams do not contain sufficient volume to fill the maximum allowed (designed) capacity of WIPP, scaling of the projected inventories is necessary to attain the following WIPP design inventory:

- Maximum CH-TRU design inventory = 6.2 million cubic feet (~176,000 cubic meters) (Public Law 102-579, 1992)

The anticipated inventory (as defined in Section 1.3.1) consists of 11 overall CH-TRU WIPP waste profiles based on the physical and chemical properties of the waste streams. The CH-TRU scaling factor is computed as follows:

- For CH waste:

$$\frac{\text{design inventory} - \text{stored inventory}}{\text{projected inventory}} = \text{CH-TRU scaling factor}$$

The RH-TRU anticipated inventory would be scaled using the same methodology. If the anticipated RH-TRU and CH-TRU inventories are less than the WIPP design limits, the projected inventory in future revisions of the WTWBIR will include volumes of waste anticipated from D&D and ER activities as these estimates are made available.

The disposal inventory is the total inventory to be used in SPM and PA calculations. To calculate the disposal inventory by WMCG for CH-TRU waste, the projected inventory is multiplied by the scaling factor, added to the stored inventory for each WMCG and summed together. See Section 3.3.2 for further details.

3. WASTE PROFILE METHODOLOGY

3.1 WASTE STREAM PROFILE METHODOLOGY

3.1.1 Introduction

The lowest tier of information in the WTWBIR is the waste stream profile, which documents specific information for each separate TRU waste stream identified by each DOE TRU waste generator/storage site. In this chapter the waste stream profile will be discussed along with the methodology for grouping waste streams into site-specific profiles and WIPP waste profiles.

3.1.2 Waste Stream Profile Description

Each DOE TRU waste generator/storage site was provided data packages that contained the waste material parameter characterization as defined in the WIPP disposal inventory (WTWBIR, Revision 0). Each DOE site was asked to review the data packages and update the information as necessary (see Appendix D for the WTWBIR Revision 1 Questionnaire). Additionally, the sites were required to generate data packages for waste streams that were not defined. This data submittal from the DOE generator/storage sites provided approximately 360 individual TRU waste streams that were used in developing the waste stream profiles (see Appendices A and J). These waste stream profiles were developed using information from the sources listed in Section 2.2. Figure 3-1 provides an example TRU waste stream profile for an INEL waste stream.

In addition to presenting the quantity of waste material parameters in each DOE waste stream, the waste stream profile also provides a cross-reference (top of the waste stream profile form) to the different waste stream nomenclature used in previously generated DOE documents (i.e., TRUCON, NMVP). Appendix F provides a cross correlation table for a WTWBIR waste stream with the NMVP and the TRUCON. The fields utilized on the waste stream profile, the sources of the information, and a short explanation of the data located in a particular field are described in Table 3-1. A complete set of the waste stream profiles is provided in Appendices A and J. Because the West Valley Demonstration Project (WVDP) is a commercial TRU waste site, it is not part of the WIPP inventory, but the WVDP waste stream profiles are provided in Appendix J for information purposes.

The sites were not requested to provide the EPA codes as this information was derived from the Phase II MWIR. EPA codes for mixed waste streams not defined in MWIR were provided by the generator/storage site. During development of the MWIR, DOE directed the TRU waste generator/storage sites to append their hazardous waste codes (EPA codes) to further define the waste in order to develop an appropriate treatment technology. These code designations and descriptions are presented in Appendix G. For example, D003 is defined by EPA as reactive. DOE further defined this code as D003A (reactive cyanide), D003B (reactive sulfides), D003C (explosives), D003D (water reactives), and D003E (other reactives).

3.1.3 Assignment of the Waste Matrix Code Group

The DOE TRU waste generator/storage sites have assigned an overall WMC to each waste stream based on the current form of the waste. The WIPP Project has developed the WIPP WAC (DOE, 1991) for any waste packages to be shipped to WIPP to ensure the safe handling and emplacement of the waste packages in the WIPP. In general, the waste forms acceptable for emplacement in WIPP are described in Table 1-2. Each waste stream has been assigned a WMC by the TRU waste generator/storage site that defines the general physical and chemical properties of the waste.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **IN** WASTE TYPE **MTRU** HANDLING **CH** GENERATOR SITE **RF**

| | | | | | |
|--------------------------------|----------|--|--------------------|----------------------------------|--|
| WASTE STREAM | MWIR ID | IN-W169 | STREAM NAME | Predominantly Combustible Debris | |
| | WIPP ID | IN-W169 | | DESCRIPTION | Combustibles (TRU): Dry paper and rags |
| | Local ID | ID-EGG-114T-330 | | | |
| MATRIX CODE | | 5440 | | | |
| SITE FINAL FORM IDC | | | | | |
| Waste Matrix Code Group | | Heterogeneous | | | |
| Site Matrix Description | | The waste stream is from Rocky Flats Plant and primarily consists of line- and nonline-generated dry combustible materials such as paper, rags, plastics, surgical gloves, cloth overalls and booties, cardboard, wood, wood filters frames, PE bottles, and laundry lint. Some combustibles may be damp or moist. Limited amounts of noncombustibles such as glass, concrete, cement, lead glovebox gloves, batteries, and metal scrap may also be present. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 116; 216C TRUCON CODE ID 216C

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|---------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | |

Figure 3-1. Example of TRU Waste Stream Profile From Idaho National Engineering Laboratory

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W169

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 20822

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 36.8 | 0.0 | 233.0 |
| Other Inorganic Materials | 27.2 | 0.0 | 196.0 |
| Cellulosics | 135.0 | 6.6 | 817.0 |
| Rubber | 57.2 | 0.0 | 330.0 |
| Plastics | 188.0 | 14.8 | 887.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

10% of this waste stream volume is classified as RH-TRU without current shielding. It is anticipated that the RH-TRU portion will be shipped as CH-TRU with internal shielding.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 4331.0 | 4331.0 m3 |
| End of 1993: | 4331.0 | 4331.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Am241 | 3.79E-01 | Curies/m3 |
| Pu52 | 4.39E+00 | Curies/m3 |
| U235 | 2.59E-06 | Curies/m3 |
| U238 | 8.48E-11 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008A
D008C
D022
D029
F001
F002
F003
F005
F005A

Figure 3-1. Example of TRU Waste Stream Profile From Idaho National Engineering Laboratory (continued)

**TABLE 3-1. SOURCES OF INFORMATION USED IN
WASTE STREAM PROFILES**

| Information Field | Source of Information | Explanation |
|--|-------------------------------|--|
| PAGE 1 OF WASTE STREAM PROFILE | | |
| SITE NAME | TRU waste sites | Storage site for existing waste; Generating site for projected waste |
| Waste Type | TRU waste sites | MTRU – mixed TRU – nonmixed |
| Handling | TRU waste sites | CH – Contact-Handled RH – Remote-Handled |
| Generator Site | TRU waste sites | TRU waste site that originally generated waste |
| <u>WASTE STREAM</u> MWIR ID | DOE-HQ | MWIR identification code assigned |
| <u>WASTE STREAM</u> WIPP ID | WTWBIR | MWIR ID used if available; new mixed WS "-MXXX"; nonmixed WS "-TXXX" |
| <u>WASTE STREAM</u> Local ID | TRU waste sites | On-site ID used at TRU waste sites |
| STREAM NAME | TRU waste sites | Usual name used to identify waste stream by TRU waste site |
| DESCRIPTION | TRU waste sites | Short description of waste generating process |
| <u>MATRIX CODE</u> | TRU waste sites | Physical/chemical waste matrix code assigned by each TRU waste site from MWIR (DOE, 1993a) |
| Waste Matrix Code Group | TRU waste sites and/or WTWBIR | Grouping of wastes in 11 WIPP profiles (see Table 1-2) |
| Site Matrix Description | TRU waste sites | Usually a description of the physical/chemical matrix of WS |
| NO-MIGRATION VARIANCE PETITION ASSIGNMENT | TRU waste sites and/or WTWBIR | If applicable, what a waste stream is called in the NMVP |

**Table 3-1. SOURCES OF INFORMATION USED IN
WASTE STREAM PROFILES (continued)**

| Information Field | Source of Information | Explanation |
|---|-------------------------------|---|
| TRUCON CODE | TRU waste sites and/or WTWBIR | If applicable, what a waste stream is called in the TRUCON |
| <u>CHECK OFF BOXES</u> | TRU waste sites | Categorization fields for TRU waste stream |
| Comments | TRU waste sites | Lists comments/assumptions provided by TRU waste sites on the waste description. |
| Footnotes | WTWBIR | Explain data provided by the TRU waste generator/storage site and/or list assumptions made by WTWBIR. |
| PAGE 2 OF WASTE STREAM PROFILE | | |
| SITE NAME Waste Type Handling Generator Site | TRU waste sites | Same as Page 1 of form |
| <u>CONTAINER</u> | TRU waste sites | Type of waste container that information on page two is based on (e.g., Drum) |
| <u>CONTAINER</u> Container Matl | TRU waste sites | Type of material that a waste container is constructed from (e.g., steel) |
| <u>CONTAINER</u> Liner Type | TRU waste sites | Description of the liner, if used in the waste container (e.g., rigid, plastic liner bags) |
| <u>CONTAINER</u> Type/Size | TRU waste sites | Common designation for size (e.g., 55-gallon) |
| <u>CONTAINER</u> Int. Vol/Ctnr | TRU waste sites | Internal volume of empty waste container |
| <u>CONTAINER</u> Liner Material | TRU waste sites | Type of material that a liner is constructed from (e.g., HDPE) |
| <u>CONTAINER</u> Number Stored | TRU waste sites | Number of containers stored as of last data call (for Revision 1 = end of 1993) |
| <u>CONTAINER</u> Number Projected | TRU waste sites | Number of containers projected to be produced from 1994– 2022 |

**Table 3-1. SOURCES OF INFORMATION USED IN
WASTE STREAM PROFILES (continued)**

| Information Field | Source of Information | Explanation |
|---|------------------------------------|---|
| MATERIAL PARAMETERS | TRU waste sites | Record the "Upper Limit"; "Lower Limit"; and "Average" in kg/m ³ for each waste material parameter, if known |
| <u>STORED TRU WASTE AND ESTIMATED RATES OF WASTE GENERATION</u> | TRU waste sites | Provides estimate of stored volumes of waste at the "End of 1992"; "End of 1993" and estimated projections for waste generation. Information is recorded for waste stream volumes as stored or generated and in terms of "final volume" for shipment to WIPP. |
| <u>TYPICAL ISOTOPIC COMPOSITION</u> | TRU waste sites | Provides estimate of "typical" radionuclide concentration expected in waste stream in a curies/m ³ basis; if concentrations are unknown, only isotopes may be listed. |
| TYPICAL EPA CODES APPLICABLE | MWIR or TRU generator/storage site | Identifies the applicable EPA codes for waste for as it exists at sites;. |
| <u>COMMENTS</u> | TRU waste sites | Lists comments/assumptions on the container information provided by TRU waste sites. |
| <u>FOOTNOTES</u> | WTWBIR | Explain data provided by TRU waste generating/storage sites and/or list assumptions made by the WTWBIR. |

The WMC is located on the first page of each waste stream profile. The assignment of the WMC is based on DOE guidance document (DOE, 1993a).

For the purpose of this document, TRU waste generator/storage sites were requested to provide WMCGs for final waste forms; that is, after the sites process, treat, or repackage the waste. The WMCG is indicated on page 1 of the waste stream profile. For most waste stream profiles, the TRU waste generator/storage sites have provided estimates of the waste material parameters (e.g., an INEL waste stream profile is used for illustrative purposes in Figure 3-1). However, in some cases the TRU waste generator/storage sites were unable to provide waste material parameter values for some waste streams. This resulted in two possible changes to the overall methodology presented in this chapter:

- In many cases the TRU waste generator/storage site could categorize the waste stream profile into one of the final 11 WIPP WMCGs (Table 1-2) but could not give any waste material parameter information. In these cases, the WTWBIR assumes the same range and average waste material parameters for the particular WIPP waste profile. For example, if a salt waste stream did not contain any waste material parameter information, but has been

identified by a TRU waste generator/storage site as being a salt waste form, then the volume of that waste stream was added to the total volume of all other salt waste streams.

- In a few cases, TRU waste generator/storage sites were unable to categorize a TRU waste stream into one of the final WIPP WMCGs (Table 1-2). In these cases the waste stream profile is placed in the "unknown" category. The "unknown" waste streams are documented as part of the WIPP inventory, but are not used in any of the scaling of CH-TRU waste volumes necessary to fill WIPP to its design capacity. "Unknown" wastes will have to be characterized and may require treatment prior to emplacement in WIPP.

The TRU waste generator/storage sites have identified several waste streams that are regulated under the Toxic Substances Control Act (TSCA) (i.e., containing asbestos or polychlorinated biphenyls [PCBs]). Because the concentration of the asbestos and/or PCBs is unknown, it is assumed that these waste streams cannot be accepted at WIPP under the proposed draft WIPP RCRA Part B Permit Application. These waste streams are summarized in Table 3-2 and are not included in the WTWBIR.

3.2 SITE-SPECIFIC WASTE PROFILE METHODOLOGY

Waste streams at each TRU waste generator/storage site with similar WMCs can be grouped together into WMCGs (Table 1-2) for a site-specific waste profile. The methodology for grouping waste streams from two different generator/storage sites is shown in Figure 3-2. The grouping of individual waste stream profiles into a site-specific waste profile is based on the similar physical and chemical properties of the waste streams and how that information is used in the SPM and PA models. In the example in Figure 3-2, due to their similar mechanical properties, concrete waste, glass waste, firebrick waste, and ceramic waste mainly influence the estimation of porosity and permeability in the SPM/PA calculations. Therefore, the three waste streams at DOE TRU Waste Site #1 and the two at DOE TRU Waste Site #2 can be grouped together at each site based on similar physical and chemical properties and placed into the site-specific waste profile "inorganic non-metal" waste, with the WMCG defined in Table 1-2.

A site-specific waste profile is developed at each of the TRU waste generator/storage sites for each of the WMCGs that have individual waste streams at the site. These site-specific waste profiles provide a roll-up of the waste material parameter and volume information found in the waste stream profiles for each site. Since there are 11 WMCGs, there are a maximum of 11 possible CH-TRU and 11 possible RH-TRU site-specific waste profiles at any generator/storage site; however, most sites have fewer profiles due to differences in waste segregation practices. An example site-specific waste profile is provided in Figure 3-3. Table 3-3 lists the sources of information for site-specific waste profiles. All the site-specific waste profiles for TRU waste are provided in Appendix B.

3.3 WIPP WASTE PROFILE METHODOLOGY

3.3.1 Introduction and Methodology

The WIPP waste profiles are the highest tier of information in the WTWBIR. Site-specific waste profiles with the same WMCGs are combined across the TRU waste generator/storage sites into what is defined as an overall WIPP waste profile.

TABLE 3-2. TOXIC SUBSTANCES CONTROL ACT (TSCA) TRU WASTE

| WIPP ID | WASTE STREAM NAME | ASBESTOS | PCBs |
|---------|---|----------|------|
| IN-W309 | Absorbed Organic Liquids | No | Yes |
| MD-W002 | Absorbed Aqueous Liquids | No | Yes |
| LL-T005 | HEPA filters | Yes | No |
| MD-M001 | Asbestos Debris | Yes | No |
| MD-T013 | Leaded gloves/aprons | No | Yes |
| MD-T008 | Uncategorized plastics/rubber debris | No | Yes |
| MD-T012 | Uncategorized heterogeneous debris | Yes | No |
| RL-M005 | TRU Mixed Inorganic Homogeneous Solids with Mercury | No | Yes |
| RL-M021 | TRU Mixed Inorganic Debris PCBs with Mercury | No | Yes |
| RL-M022 | TRU Mixed Leaded Gloves/Aprons PCBs with Mercury | No | Yes |
| RL-M023 | TRU Mixed Organic Debris PCBs with IGN, CORR, REAC | No | Yes |
| RL-M024 | TRU Mixed Organic Labpacks with PCBs | No | Yes |
| RL-T030 | Non-mixed Inorganic Debris with PCBs | No | Yes |

As described in Sections 3.1 and 3.2, each waste stream from each TRU waste generator/storage site is defined in a waste stream profile, then grouped by site WMCGs into site-specific waste profiles. These site-specific waste profiles are then rolled-up into WIPP waste profiles by combining identical WMCGs from all the TRU waste generator/storage sites. For example, all site-specific waste profiles for "inorganic non-metal" waste are grouped together to generate the WIPP waste profile, "inorganic non-metal" waste. The WIPP waste profiles are presented in Figures 3-4 through 3-23 at the end of this chapter.

3.3.2 WIPP Waste Profile Roll-Ups

To illustrate the methodology for grouping similar site-specific waste profiles into WIPP waste profiles, the WIPP waste profile for "inorganic non-metal" waste (exemplified in Figure 3-2) is provided in Figure 3-8. As with site-specific waste profiles, there can be a maximum of 11 possible WIPP waste profiles for CH-TRU and 11 possible WIPP waste profiles for RH-TRU

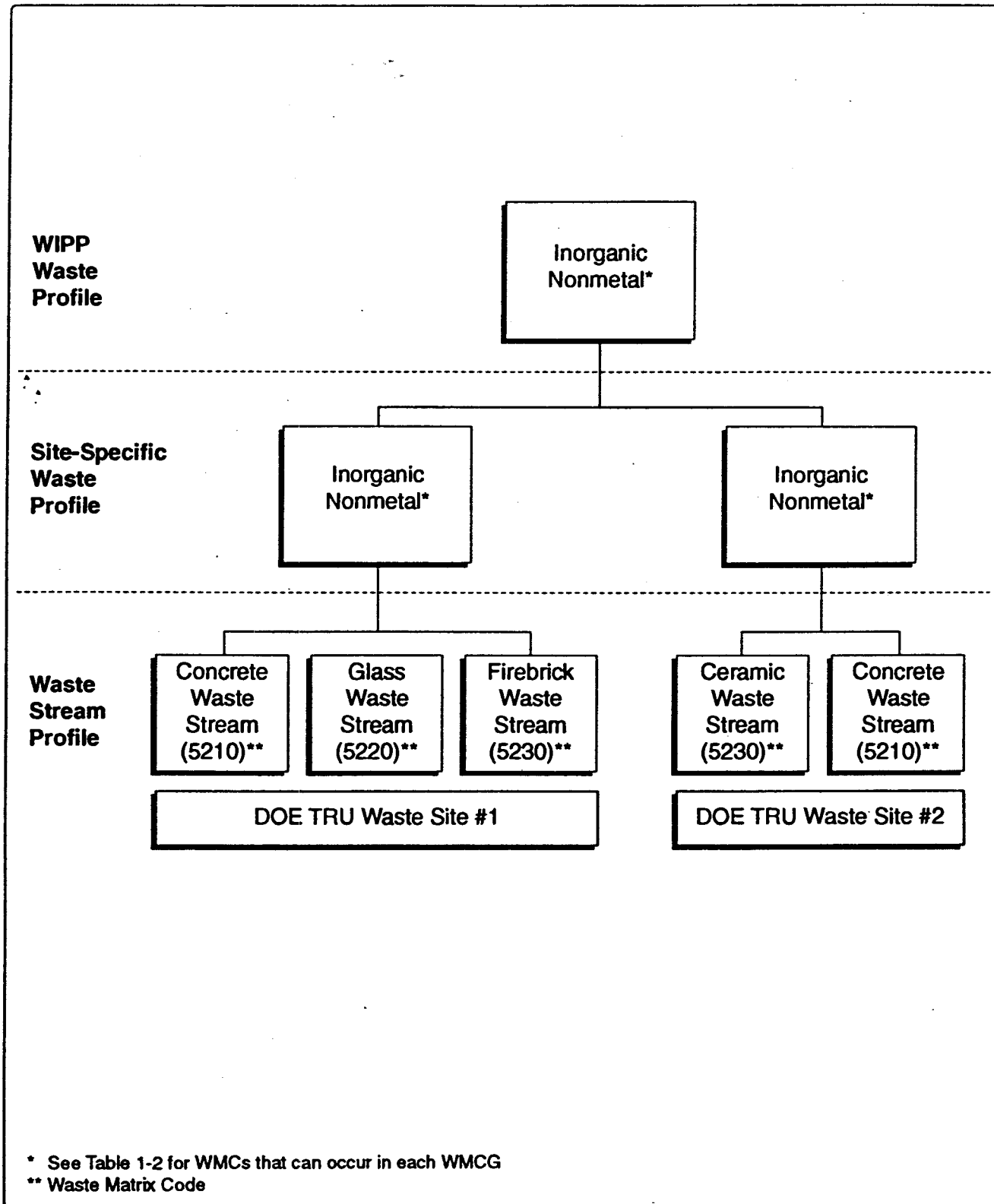


Figure 3-2. Schematic of Waste Stream Profile Methodology.

Site-Specific Contact Handled Waste Profiles

| Site Name: INEL | | | |
|--|------------------------------------|-----------------------|----------------------------------|
| Final Waste Form: Heterogeneous | | | |
| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total per Stream (m3)</u> |
| IN-W169 | 4331 | 0 | 4331 |
| IN-W170 | 0.44 | 1 | 1.44 |
| IN-W171 | 3.6 | 0 | 3.6 |
| IN-W172 | 165.57 | 0 | 165.57 |
| IN-W186 | 2695.1 | 0 | 2695.1 |
| IN-W189 | 8.2 | 0 | 8.2 |
| IN-W197 | 632.7 | 0 | 632.7 |
| IN-W203 | 71.9 | 0 | 71.9 |
| IN-W204 | 3.2 | 0 | 3.2 |
| IN-W225 | 6.1 | 0 | 6.1 |
| IN-W259 | 58.8 | 0 | 58.8 |
| IN-W265 | 47.8 | 0 | 47.8 |
| IN-W269A | 34.8 | 0 | 34.8 |
| IN-W271 | 0.42 | 0 | 0.42 |
| IN-W281 | 348 | 0 | 348 |
| IN-W283 | 1 | 0 | 1 |
| IN-W285 | 85 | 0 | 85 |
| IN-W289 | 25.4 | 0 | 25.4 |
| IN-W291 | 639 | 0 | 639 |
| IN-W302 | 144.1 | 0 | 144.1 |
| IN-W306.3 | 322.67 | 0 | 322.67 |
| IN-W329 | 1.14 | 0 | 1.14 |
| IN-W334 | 7.48 | 0 | 7.48 |

Figure 3-3; Example of Site Specific Waste Profile

Site-Specific Contact Handled Waste Profiles

| | | | |
|----------------------|---------------|----------|---------------|
| IN-W345 | 14.6 | 0 | 14.6 |
| IN-W351 | 1.48 | 0 | 1.48 |
| Total Volume: | 9649.5 | 1 | 9650.5 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|---|-------------------------|-----------------------|-----------------------|-----------------------|
| Inorganics | Iron Based | 1634.6 | 38.0 | 0.0 |
| | Aluminum Based | 38.2 | 1.2 | 0.0 |
| | Other Metals | 233.0 | 17.2 | 0.0 |
| | Other Inorganics | 1442.3 | 17.9 | 0.0 |
| Organics | Cellulose | 961.5 | 245.1 | 0.0 |
| | Rubber | 330.0 | 43.7 | 0.0 |
| | Plastics | 887.0 | 148.1 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 144.2 | 0.2 | 0.0 |

Figure 3-3 (cont); Example of Site Specific Waste Profile

**TABLE 3-3. SOURCES OF INFORMATION USED IN
SITE-SPECIFIC WASTE PROFILES**

| Information Field | Source of Information | Explanation |
|---------------------------|---------------------------|--|
| DOE TRU Site | TRU Waste Sites | The code for the DOE site. Codes are as follows: AL - Ames Laboratory AE - Argonne National Laboratory - East AW - Argonne National Laboratory - West BC - Battelle Columbus BT - Bettis Atomic Power Laboratory ET - Energy Technology Engineering Center IN - Idaho National Engineering Laboratory IT - Inhalation Toxicology Research Institute KA - Knolls Atomic Power Laboratory - Schenectady LA - Los Alamos National Laboratory LB - Lawrence Berkeley Laboratory LL - Lawrence Livermore National Laboratory MD - Mound Plant MU - University of Missouri NT - Nevada Test Site OR - Oak Ridge National Laboratory PA - Paducah Gaseous Diffusion Plant PX - Pantex Plant RF - Rocky Flats Environmental Technology Site RL - Richland (Hanford) Site SA - Sandia National Laboratories/NM SR - Savannah River Site WV - West Valley Demonstration Project |
| WMCG | WTWBIR or TRU waste sites | Groups waste streams that have similar chemical and physical properties (see Table 1-2). |
| Waste Stream Volume | TRU waste sites | Provides estimates of retrievably stored, projected, and total volumes of TRU and mixed TRU wastes by waste stream. |
| Waste Material Parameters | TRU waste sites | Provides total density estimates of selected waste materials in a particular WMCG for the entire site. |

waste. Table 3-4 lists the sources of information used for the WIPP waste profiles. Using volumes for all the TRU waste streams (including the mixed and non-mixed TRU waste volumes) in the WTWBID, a disposal inventory of TRU waste has been developed using the methodology described in this and the preceding sections. This inventory is presented in Table 3-5 (by WMCGs) and depicts both the anticipated and disposal inventory volumes.

**TABLE 3-4. SOURCES OF INFORMATION USED
IN WIPP WASTE PROFILES**

| Information Field | Source of Information | Explanation |
|--------------------------------|---------------------------|--|
| Waste Matrix Code Group (WMCG) | WTWBIR or TRU waste sites | Groups waste streams that have similar chemical and physical properties (Table 1-2) |
| DOE Site Volumes | TRU waste sites | Provides estimates of retrievably stored, projected, and total volumes of TRU and TRU mixed wastes by DOE site |
| Waste Material Parameters | TRU waste sites | Provides weight estimates of selected waste materials in a particular WMCG for the DOE Complex |

The anticipated CH-TRU inventory volumes are the sum of the "stored" and "projected" volumes in Table 3-5. The procedure to scale to the disposal inventory is summarized below:

- The target design volume of CH-TRU waste beyond that identified by the generator/storage sites is decreased by the "unknown" waste volume ($176,000 - 1700 = 176,000$ [there is no significant increase due to rounding]).

The "unknown" volume of waste in Table 3-5 is subtracted from the stored inventory and from the projected inventory.

- The "unknown" waste will have to be added back into the total scaled inventory because it is assumed that this waste will be characterized and then shipped to WIPP.
- Applying a modified version of the formula given in Section 2.3:

$$\frac{1.76 \times 10^5 - 7.13 \times 10^4}{5.1 \times 10^4} = 2.05 \text{ (scaling factor)}$$

(modified design inventory) – (modified stored inventory)
(modified projected inventory)

- Multiply the CH-TRU waste projected inventory volumes by the scaling factor 2.05 for all the WMCGs, except for the "unknown" waste and add the stored volumes (which results in the numbers in the "Disposal Inventory" column of Table 3-5).
- Add the CH-TRU waste volumes in the fourth column, including the "unknown" waste, to attain the estimated WIPP disposal inventory volume).

The CH-TRU waste stream volume on a system-wide WMCG basis is increased by 42 percent to account for the difference between the anticipated inventory and the repository design limit.

A similar methodology has been developed to scale the RH-TRU inventory. The anticipated RH-TRU inventory volumes are the sum of the "stored" and "projected" volumes in Table 3-5. The procedure to scale to the disposal inventory is summarized below:

- The target design volume of RH-TRU waste beyond that identified by the generator/storage sites is decreased by the "unknown" waste volume (7080 - 35 = 7045).

The "unknown" volume of waste in Table 3-5 is subtracted from the stored inventory and from the projected inventory.

- The "unknown" waste will have to be added back into the total scaled inventory because it is assumed that this waste will be characterized and then shipped to WIPP.
- Applying a modified version of the formula given in Section 2.3:

$$\frac{7045 \quad - \quad 1158}{3595 \text{ (modified projected inventory)}} = 1.64 \text{ (scaling factor)}$$

(modified design inventory) – (modified stored inventory)

- Multiply the RH-TRU waste projected inventory volumes by the scaling factor 1.64 for all the WMCGs, except for the "unknown" waste and add the stored volumes (which results in the numbers in the "Disposal Inventory" column of Table 3-5).
- Add the RH-TRU waste volumes in the fourth column, including the "unknown" waste, to attain the estimated WIPP disposal inventory volume).

The RH-TRU waste stream volume on a system-wide WMCG basis is increased by 48 percent to account for the difference between the anticipated inventory and the repository design limit.

Table 3-5

TRANSURANIC WASTE DISPOSAL INVENTORY FOR WIPP**Contact Handled Waste****(Cubic Meters)**

| Waste Matrix Groups | Stored Volumes | Projected Volumes | Anticipated Volumes | WIPP Disposal Volumes |
|--------------------------------|---------------------------|------------------------------|--------------------------------|----------------------------------|
| Combustible | 7.1E+03 | 2.7E+04 | 3.4E+04 | 6.2E+04 |
| Filter | 4.3E+02 | 1.1E+03 | 1.5E+03 | 2.6E+03 |
| Graphite | 6.7E+02 | 4.3E+01 | 7.1E+02 | 7.6E+02 |
| Heterogeneous | 3.0E+04 | 4.6E+03 | 3.5E+04 | 3.9E+04 |
| Inorganic Non-metal | 1.2E+03 | 3.2E+02 | 1.5E+03 | 1.8E+03 |
| Lead/Cadmium Metal Waste | 5.6E+01 | 1.3E+02 | 1.8E+02 | 3.1E+02 |
| Salt Waste | 3.3E+01 | 6.0E+01 | 9.2E+01 | 1.5E+02 |
| Soils | 3.7E+02 | 4.5E+02 | 8.3E+02 | 1.3E+03 |
| Solidified Inorganics | 1.7E+04 | 8.0E+03 | 2.5E+04 | 3.4E+04 |
| Solidified Organics | 1.5E+03 | 3.0E+02 | 1.8E+03 | 2.1E+03 |
| Uncategorized Metal | 1.2E+04 | 8.6E+03 | 2.1E+04 | 3.0E+04 |
| Unknown | 1.7E+03 | 0.0E+00 | 1.7E+03 | 1.7E+03 |
| Total CH Volumes | 7.3E+04 | 5.1E+04 | 1.2E+05 | 1.8E+05 |
| Remote Handled Waste | | | | |
| Combustible | 1.5E+01 | 3.2E+00 | 1.8E+01 | 2.0E+01 |
| Filter | 8.9E-01 | 2.1E+00 | 3.0E+00 | 4.3E+00 |
| Heterogeneous | 4.4E+02 | 3.3E+03 | 3.8E+03 | 5.9E+03 |
| Lead/Cadmium Metal Waste | 0.0E+00 | 6.0E+00 | 6.0E+00 | 9.8E+00 |
| Salt Waste | 0.0E+00 | 2.8E+00 | 2.8E+00 | 4.6E+00 |
| Solidified Inorganics | 6.1E+02 | 1.7E+02 | 7.9E+02 | 9.0E+02 |
| Uncategorized Metal | 8.8E+01 | 8.6E+01 | 1.7E+02 | 2.3E+02 |
| Unknown | 1.1E+01 | 2.4E+01 | 3.5E+01 | 3.5E+01 |
| Total RH Volumes | 1.2E+03 | 3.6E+03 | 4.8E+03 | 7.1E+03 |
| Total TRU Waste Volumes | 7.4E+04 | 5.4E+04 | 1.3E+05 | 1.8E+05 |

WIPP Contact Handled Waste Profiles**Final Waste Form: Combustible**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 670.90 | 0.00 | 670.90 |
| LANL | 1768.33 | 2464.60 | 4232.93 |
| MOUND | 5.61 | 0.00 | 5.61 |
| HANFORD | 526.48 | 12269.03 | 12795.51 |
| LLNL | 48.88 | 372.32 | 421.20 |
| SRS | 4066.80 | 11962.50 | 16029.30 |
| Total Volume | 7087.00 | 27068.45 | 34155.45 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 1048.3 | 41.8 | 0.0 |
| | Aluminum Based | 1048.3 | 2.5 | 0.0 |
| | Other Metals | 474.5 | 3.0 | 0.0 |
| | Other Inorganics | 200.0 | 2.6 | 0.0 |
| Organics | Cellulose | 961.5 | 288.0 | 0.0 |
| | Rubber | 629.0 | 33.0 | 0.0 |
| | Plastics | 850.5 | 90.0 | 0.0 |
| Solidified Materials | Inorganic | 100.0 | 0.1 | 0.0 |
| | Organic | 100.0 | 0.1 | 0.0 |
| Soils | | 192.7 | 2.1 | 0.0 |

Figure 3 - 4
WIPP CH-TRU Waste Profile for Final Waste Form Combustible

WIPP Contact Handled Waste Profiles**Final Waste Form: Filter**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 323.56 | 0.00 | 323.56 |
| RFP | 103.96 | 1087.59 | 1191.55 |
| Total Volume | 427.52 | 1087.59 | 1515.11 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 595.3 | 6.7 | 0.0 |
| | Aluminum Based | 440.7 | 11.9 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 500.0 | 72.9 | 0.0 |
| Organics | Cellulose | 496.1 | 15.9 | 0.0 |
| | Rubber | 11.3 | 0.6 | 0.0 |
| | Plastics | 596.6 | 21.2 | 0.0 |
| Solidified Materials | Inorganic | 427.6 | 42.6 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 5
WIPP CH-TRU Waste Profile for Final Waste Form Filter

WIPP Contact Handled Waste Profiles**Final Waste Form: Graphite**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 650.70 | 0.00 | 650.70 |
| RFP | 18.06 | 43.40 | 61.46 |
| Total Volume | 668.76 | 43.40 | 712.16 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 17.3 | 0.7 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.3 | 0.0 | 0.0 |
| | Other Inorganics | 468.0 | 237.1 | 16.9 |
| Organics | Cellulose | 9.8 | 3.8 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 51.4 | 4.3 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 6
WIPP CH-TRU Waste Profile for Final Waste Form Graphite

WIPP Contact Handled Waste Profiles

Final Waste Form: Heterogeneous

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| LBL | 0.84 | 4.42 | 5.26 |
| INEL | 9649.50 | 1.00 | 9650.50 |
| ORNL | 672.98 | 263.90 | 936.88 |
| HANFORD | 8568.55 | 827.16 | 9395.71 |
| NTS | 619.50 | 0.00 | 619.50 |
| KAPL | 2.40 | 0.00 | 2.40 |
| MOUND | 0.42 | 0.00 | 0.42 |
| BT | 0.00 | 123.82 | 123.82 |
| ETEC | 1.66 | 5.20 | 6.86 |
| PANTEX | 0.62 | 0.00 | 0.62 |
| RFP | 312.86 | 804.58 | 1117.44 |
| SRS | 10132.20 | 2563.60 | 12695.80 |
| SNL/NM | 8.04 | 7.00 | 15.04 |
| ANL-W | 0.00 | 3.36 | 3.36 |
| MU | 0.06 | 1.60 | 1.66 |
| Total Volume | 29969.63 | 4605.64 | 34575.27 |

Figure 3 - 7
WIPP CH-TRU Waste Profile for Final Waste Form Heterogeneous

WIPP Contact Handled Waste Profiles

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 1716.4 | 168.4 | 0.0 |
| | Aluminum Based | 512.0 | 30.5 | 0.0 |
| | Other Metals | 850.0 | 5.0 | 0.0 |
| | Other Inorganics | 2100.0 | 16.9 | 0.0 |
| Organics | Cellulose | 961.5 | 301.7 | 0.0 |
| | Rubber | 681.8 | 39.7 | 0.0 |
| | Plastics | 887.0 | 123.6 | 0.0 |
| Solidified Materials | Inorganic | 177.0 | 2.9 | 0.0 |
| | Organic | 400.0 | 0.2 | 0.0 |
| Soils | | 865.8 | 2.7 | 0.0 |

Figure 3 - 7
WIPP CH-TRU Waste Profile for Final Waste Form Heterogeneous

WIPP Contact Handled Waste Profiles**Final Waste Form: Inorganic Non-metal**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 1052.89 | 0.00 | 1052.89 |
| RFP | 110.68 | 318.68 | 429.36 |
| Total Volume | 1163.57 | 318.68 | 1482.25 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 23.8 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 13.1 | 0.2 | 0.0 |
| | Other Inorganics | 1250.0 | 214.3 | 0.0 |
| Organics | Cellulose | 850.0 | 41.9 | 0.0 |
| | Rubber | 8.7 | 0.4 | 0.0 |
| | Plastics | 69.9 | 13.6 | 0.0 |
| Solidified Materials | Inorganic | 69.9 | 3.7 | 0.0 |
| | Organic | 8.3 | 0.0 | 0.0 |
| Soils | | 865.8 | 0.4 | 0.0 |

Figure 3 - 8
WIPP CH-TRU Waste Profile for Final Waste Form Inorganic Non-metal

WIPP Contact Handled Waste Profiles**Final Waste Form: Lead/Cadmium Metal Waste**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| ANL-E | 1.10 | 0.00 | 1.10 |
| ANL-W | 0.02 | 2.48 | 2.50 |
| ETEC | 0.21 | 0.00 | 0.21 |
| RFP | 51.87 | 124.18 | 176.05 |
| HANFORD | 3.13 | 0.29 | 3.42 |
| Total Volume | 56.33 | 126.95 | 183.28 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 256.1 | 0.6 | 0.0 |
| | Aluminum Based | 27.8 | 0.1 | 0.0 |
| | Other Metals | 1438.3 | 45.3 | 0.0 |
| | Other Inorganics | 370.1 | 166.3 | 0.0 |
| Organics | Cellulose | 264.0 | 7.8 | 0.0 |
| | Rubber | 217.3 | 98.5 | 0.0 |
| | Plastics | 86.7 | 15.4 | 0.0 |
| Solidified Materials | Inorganic | 237.0 | 2.5 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 77.0 | 0.4 | 0.0 |

Figure 3 - 9
WIPP CH-TRU Waste Profile for Final Waste Form Lead/Cadmium Metal Waste

WIPP Contact Handled Waste Profiles

Final Waste Form: Salt Waste

| <u>Site</u> | | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|--|------------------------------------|-----------------------|-------------------|
| RFP | | 9.45 | 56.60 | 66.05 |
| INEL | | 22.91 | 0.00 | 22.91 |
| LLNL | | 0.62 | 2.91 | 3.54 |
| Total Volume | | 32.98 | 59.51 | 92.50 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 100.0 | 20.1 | 0.0 |
| | Aluminum Based | 80.0 | 0.2 | 0.0 |
| | Other Metals | 212.0 | 8.4 | 0.0 |
| | Other Inorganics | 719.1 | 239.2 | 2.9 |
| Organics | Cellulose | 50.0 | 1.0 | 0.0 |
| | Rubber | 20.0 | 0.0 | 0.0 |
| | Plastics | 100.0 | 1.9 | 0.0 |
| Solidified Materials | Inorganic | 10.0 | 0.0 | 0.0 |
| | Organic | 10.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 10
WIPP CH-TRU Waste Profile for Final Waste Form Salt Waste

WIPP Contact Handled Waste Profiles**Final Waste Form: Soils**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| HANFORD | 111.69 | 309.27 | 420.96 |
| INEL | 3.80 | 0.00 | 3.80 |
| MOUND | 146.88 | 0.00 | 146.88 |
| LANL | 109.37 | 144.60 | 253.97 |
| Total Volume | 371.74 | 453.87 | 825.61 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 38.8 | 1.4 | 0.0 |
| | Aluminum Based | 38.8 | 0.3 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 33.9 | 0.0 | 0.0 |
| Organics | Cellulose | 67.3 | 7.2 | 0.0 |
| | Rubber | 210.4 | 1.8 | 0.0 |
| | Plastics | 132.2 | 32.9 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 1600.0 | 644.4 | 17.8 |

Figure 3 - 11
WIPP CH-TRU Waste Profile for Final Waste Form Soils

WIPP Contact Handled Waste Profiles**Final Waste Form: Solidified Inorganics**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| SRS | 0.04 | 0.00 | 0.04 |
| ANL-E | 23.05 | 1.12 | 24.17 |
| RFP | 228.63 | 2988.11 | 3216.74 |
| PA | 3.45 | 0.00 | 3.45 |
| ORNL | 110.00 | 0.00 | 110.00 |
| LANL | 4848.38 | 2059.03 | 6907.41 |
| MOUND | 7.28 | 0.00 | 7.28 |
| HANFORD | 1.46 | 2924.76 | 2926.22 |
| INEL | 12164.28 | 0.00 | 12164.28 |
| LLNL | 13.30 | 66.15 | 79.45 |
| AMES LAB | 0.00 | 0.10 | 0.10 |
| Total Volume | 17399.87 | 8039.27 | 25439.14 |

Material Parameters (Kg/m3)

| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|-----------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 153.9 | 9.5 | 0.0 |
| | Aluminum Based | 153.9 | 1.1 | 0.0 |
| | Other Metals | 20.0 | 0.4 | 0.0 |
| | Other Inorganics | 1122.0 | 106.4 | 0.0 |
| Organics | Cellulose | 100.0 | 0.9 | 0.0 |
| | Rubber | 20.0 | 0.8 | 0.0 |
| | Plastics | 100.0 | 3.4 | 0.0 |
| Solidified Materials | Inorganic | 2180.0 | 634.7 | 0.0 |
| | Organic | 1357.0 | 12.8 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 12
WIPP CH-TRU Waste Profile for Final Waste Form Solidified Inorganics

WIPP Contact Handled Waste Profiles**Final Waste Form: Solidified Organics**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| RFP | 132.80 | 48.82 | 181.62 |
| INEL | 912.60 | 0.00 | 912.60 |
| ANL-E | 0.03 | 0.00 | 0.03 |
| SRS | 404.85 | 240.70 | 645.55 |
| HANFORD | 2.17 | 15.25 | 17.42 |
| Total Volume | 1452.45 | 304.77 | 1757.21 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 728.3 | 340.8 | 0.0 |
| Organics | Cellulose | 42.9 | 0.2 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 121.1 | 3.1 | 0.0 |
| Solidified Materials | Inorganic | 528.8 | 34.4 | 0.0 |
| | Organic | 1072.0 | 398.4 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 13
WIPP CH-TRU Waste Profile for Final Waste Form Solidified Organics

WIPP Contact Handled Waste Profiles**Final Waste Form: Uncategorized Metal**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 7564.09 | 0.00 | 7564.09 |
| ANL-E | 4.96 | 0.56 | 5.52 |
| MOUND | 102.28 | 0.00 | 102.28 |
| RFP | 164.82 | 429.50 | 594.32 |
| LANL | 4134.80 | 3006.17 | 7140.97 |
| LLNL | 144.33 | 247.00 | 391.33 |
| HANFORD | 103.35 | 4890.95 | 4994.30 |
| Total Volume | 12218.62 | 8574.18 | 20792.80 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 2096.0 | 129.1 | 0.0 |
| | Aluminum Based | 915.3 | 12.7 | 0.0 |
| | Other Metals | 1057.7 | 146.5 | 0.0 |
| | Other Inorganics | 812.5 | 11.2 | 0.0 |
| Organics | Cellulose | 500.0 | 14.0 | 0.0 |
| | Rubber | 245.6 | 1.0 | 0.0 |
| | Plastics | 750.8 | 13.7 | 0.0 |
| Solidified Materials | Inorganic | 300.0 | 0.0 | 0.0 |
| | Organic | 300.0 | 0.0 | 0.0 |
| Soils | | 48.7 | 0.2 | 0.0 |

Figure 3 - 14
WIPP CH-TRU Waste Profile for Final Waste Form Uncategorized Metal

WIPP Contact Handled Waste Profiles**Final Waste Form: Unknown**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 1655.91 | 0.00 | 1655.91 |
| Total Volume | 1655.91 | 0.00 | 1655.91 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 15
WIPP CH-TRU Waste Profile for Final Waste Form Unknown

WIPP Remote Handled Waste Profiles**Final Waste Form: Combustible**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| LANL | 14.84 | 3.16 | 18.00 |
| Total Volume | 14.84 | 3.16 | 18.00 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 265.2 | 257.7 | 254.0 |
| | Aluminum Based | 0.4 | 0.4 | 0.4 |
| | Other Metals | 89.7 | 18.8 | 18.8 |
| | Other Inorganics | 6.8 | 6.8 | 6.8 |
| Organics | Cellulose | 68.7 | 64.0 | 59.2 |
| | Rubber | 1.2 | 1.1 | 1.0 |
| | Plastics | 5.7 | 5.3 | 4.9 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 16
WIPP RH-TRU Waste Profile for Final Waste Form Combustible

28-Feb-95

CAO-94-1005, Revision 1
February 1995

WIPP Remote Handled Waste Profiles

Final Waste Form: Filter

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| ANL-W | 0.89 | 2.09 | 2.98 |
| Total Volume | 0.89 | 2.09 | 2.98 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 241.2 | 232.5 | 214.9 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 8.8 | 8.8 | 8.8 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 17
WIPP RH-TRU Waste Profile for Final Waste Form Filter

WIPP Remote Handled Waste Profiles**Final Waste Form: Heterogeneous**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 13.63 | 2.80 | 16.43 |
| ANL-W | 0.59 | 0.08 | 0.67 |
| BCLDP | 0.00 | 71.00 | 71.00 |
| BT | 0.00 | 1.56 | 1.56 |
| HANFORD | 33.16 | 2973.71 | 3006.87 |
| SRS | 0.00 | 63.92 | 63.92 |
| KAPL | 11.23 | 25.23 | 36.46 |
| ORNL | 382.81 | 182.70 | 565.51 |
| Total Volume | 441.43 | 3321.00 | 3762.42 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 1716.4 | 108.5 | 0.0 |
| | Aluminum Based | 263.0 | 23.0 | 0.0 |
| | Other Metals | 500.0 | 0.2 | 0.0 |
| | Other Inorganics | 2000.0 | 38.6 | 0.0 |
| Organics | Cellulose | 961.5 | 34.3 | 0.0 |
| | Rubber | 163.5 | 5.9 | 0.0 |
| | Plastics | 550.0 | 30.7 | 0.0 |
| Solidified Materials | Inorganic | 15.0 | 0.1 | 0.0 |
| | Organic | 3.0 | 0.0 | 0.0 |
| Soils | | 193.0 | 2.3 | 0.0 |

Figure 3 - 18
WIPP RH-TRU Waste Profile for Final Waste Form Heterogeneous

WIPP Remote Handled Waste Profiles**Final Waste Form: Lead/Cadmium Metal Waste**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| ANL-W | 0.00 | 0.36 | 0.36 |
| INEL | 0.00 | 5.60 | 5.60 |
| Total Volume | 0.00 | 5.96 | 5.96 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 256.1 | 12.0 | 0.0 |
| | Aluminum Based | 27.8 | 1.3 | 0.0 |
| | Other Metals | 109.6 | 43.6 | 0.0 |
| | Other Inorganics | 754.8 | 165.7 | 1.2 |
| Organics | Cellulose | 45.3 | 7.7 | 0.0 |
| | Rubber | 190.4 | 92.3 | 0.0 |
| | Plastics | 67.6 | 15.1 | 0.0 |
| Solidified Materials | Inorganic | 619.2 | 5.9 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 1.2 | 0.4 | 0.0 |

Figure 3 - 19
WIPP RH-TRU Waste Profile for Final Waste Form Lead/Cadmium Metal Waste

WIPP Remote Handled Waste Profiles**Final Waste Form: Salt Waste**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 0.00 | 2.80 | 2.80 |
| Total Volume | 0.00 | 2.80 | 2.80 |

| <u>Material Parameters (Kg/m3)</u> | | | | |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 28.6 | 20.1 | 3.7 |
| | Aluminum Based | 3.1 | 0.2 | 0.0 |
| | Other Metals | 16.9 | 8.4 | 1.6 |
| | Other Inorganics | 591.1 | 239.2 | 106.3 |
| Organics | Cellulose | 3.8 | 1.0 | 0.0 |
| | Rubber | 0.8 | 0.0 | 0.0 |
| | Plastics | 5.2 | 1.9 | 1.1 |
| Solidified Materials | Inorganic | 0.4 | 0.0 | 0.0 |
| | Organic | 0.4 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 20
WIPP RH-TRU Waste Profile for Final Waste Form Salt Waste

WIPP Remote Handled Waste Profiles**Final Waste Form: Solidified Inorganics**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 2.10 | 0.00 | 2.10 |
| ORNL | 611.00 | 174.00 | 785.00 |
| Total Volume | 613.10 | 174.00 | 787.10 |

| | | <u>Material Parameters (Kg/m3)</u> | | |
|-----------------------------|-------------------------|------------------------------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 528.8 | 1.1 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 1057.7 | 792.2 | 173.1 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 21
WIPP RH-TRU Waste Profile for Final Waste Form Solidified Inorganics

WIPP Remote Handled Waste Profiles**Final Waste Form: Uncategorized Metal**

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 4.11 | 5.60 | 9.71 |
| LANL | 76.46 | 79.50 | 155.96 |
| ANL-W | 7.17 | 1.36 | 8.53 |
| Total Volume | 87.74 | 86.46 | 174.20 |

| <u>Material Parameters (Kg/m3)</u> | | | | |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 380.3 | 226.8 | 0.0 |
| | Aluminum Based | 141.4 | 2.2 | 0.0 |
| | Other Metals | 913.5 | 279.0 | 0.0 |
| | Other Inorganics | 34.6 | 7.7 | 0.0 |
| Organics | Cellulose | 68.7 | 1.8 | 0.0 |
| | Rubber | 18.0 | 0.1 | 0.0 |
| | Plastics | 82.1 | 1.6 | 0.0 |
| Solidified Materials | Inorganic | 3.7 | 0.0 | 0.0 |
| | Organic | 3.7 | 0.0 | 0.0 |
| Soils | | 2.9 | 0.0 | 0.0 |

Figure 3 - 22
WIPP RH-TRU Waste Profile for Final Waste Form Uncategorized Metal

WIPP Remote Handled Waste Profiles

Final Waste Form: Unknown

| <u>Site</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|---------------------|------------------------------------|-----------------------|-------------------|
| INEL | 11.13 | 0.00 | 11.13 |
| ANL-W | 0.00 | 23.74 | 23.74 |
| Total Volume | 11.13 | 23.74 | 34.87 |

| <u>Material Parameters (Kg/m3)</u> | | | | |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Figure 3 - 23
WIPP RH-TRU Waste Profile for Final Waste Form Unknown

4. WIPP DISPOSAL RADIONUCLIDE INVENTORY

4.1 INTRODUCTION

The TRU waste generator/storage sites were requested in the Revision 1 data call to submit estimates of the radionuclide inventory on a waste stream basis. Most sites complied with the data request, but many waste streams submitted to the WTWBID did not contain this information. Due to the short timeframe given the TRU waste generator/storage sites for the Revision 1 data call, sufficient time was not available to derive the data to support each waste stream. The radionuclide data provided on a waste stream basis in Appendix A of the WTWBIR is currently for information purposes only.

4.2 METHODOLOGY

Since the waste-stream specific radionuclide data is insufficient to derive a radionuclide inventory, the site-wide radionuclide inventories reported in the Integrated Data Base (IDB) were used. The most recent IDB (DOE, 1994b) will be used which contains unpublished radionuclide data by site for stored TRU wastes as of December 31, 1993 (Appendix I).

There are still some volume differences at a TRU waste generator/storage site level between the IDB and the WTWBIR (see Section 1.5.4). Closure between the two data sets should be achieved with the Revision 2 WTWBIR data call and publication of Revision 2 of the WTWBIR. Therefore, the volume data from the IDB database (DOE, 1994b) has been used to make the estimates of stored and projected volumes used in deriving the radionuclide information. By using the volume and radionuclide data from the IDB database, there exists one internally consistent set of data for estimating the radionuclide inventory.

IDB radionuclide data is only available for stored TRU waste. Therefore, this historical radionuclide data will also be used to make estimates of the projected radionuclide inventories and for any necessary scaling. Until estimates are available from the TRU waste generator/storage sites on projected radionuclide inventories, the IDB represents the only comprehensive database.

The WIPP radionuclide disposal inventory for CH-TRU waste has been calculated as follows:

- The stored and projected volumes from the IDB (DOE, 1994b) data have been used for the volume estimates and are included in Table 4-1.
- The radionuclide data included as part of the data submitted for the IDB (DOE, 1994b) represents the stored waste only. Appendix E provides the radionuclide inventory by TRU waste site for the stored inventories listed in Table 4-1. These numbers have been decayed to December 1993, using the Radioactive Decay and Accumulation Code (RADAC) System (DOE, 1994d).
- For a particular site and radionuclide, divide the reported inventory for that radionuclide from the IDB (Appendix E) by the volume of stored waste at that site from the IDB (Table 4-1). This results in a curies/m³ estimate for all reported radionuclides at each site.
- The projected volumes of waste are assumed to have the same radionuclide concentrations on a cubic meter basis as the stored waste at each site.

- Since Bettis Atomic Power Laboratory (BT) and Ames Laboratory (AL) reported no existing CH-TRU waste volume inventory, there is no radionuclide inventory for these sites in the IDB. The projected volumes from these two sites, BT (123.5 m³), and AL (0.09 m³) have been grouped with the INEL projected CH-TRU waste and assumed to have the same isotopic composition.
- The total volume of projected CH-TRU waste from the IDB in Table 4-1, if added to the stored waste volumes from the IDB, exceeds the capacity of WIPP (176,000 m³)
- To calculate the radionuclide inventory the total projected CH-TRU waste is adjusted as follows:
 - Maximum design capacity for CH-TRU = 176,000 m³
 - Stored CH-TRU volume = 104,000 m³
 - Allowable projected volume = (176,000 - 104,000) x 10⁵ m³ = 72,000 m³
 - Projected waste adjustment factor =

$$\frac{\text{Allowable projected volume}}{\text{Projected volume reported by sites}} = \frac{72,000 \text{ m}^3}{64,600 \text{ m}^3} = 1.11$$

- Therefore, the projected radionuclide inventory for each radionuclide at each site is calculated as follows:

$$\text{Stored Radionuclide Inventory} + \left(\text{Concentration of radionuclide in stored waste in curies/m}^3 \times \text{Volume of projected waste at site} \times 0.65 \right) = \text{Total CH-TRU inventory for radionuclide at that site}$$

The building of the WIPP radionuclide disposal inventory for RH-TRU waste has been calculated similar to the CH-TRU radionuclide inventory, with the exception of the following:

- Three RH-TRU waste streams that are projected waste streams only were submitted with no accompanying isotopic information: RL-M201, RL-T202, and SR-T001. THESE WASTE STREAMS, WHICH ACCOUNT FOR THE PROJECTED HANFORD AND SRS RH-TRU WASTE VOLUMES, HAVE BEEN OMITTED FROM THE RADIONUCLIDE INVENTORY CALCULATIONS due to the lack of radionuclide information. The RH-TRU projected volumes in the Draft Revision 10 IDB (Appendix I) include both the reported volumes in the two projected Hanford RH-TRU waste streams and the "suspect" volumes reported in the comment field of the two Hanford waste streams (RL-M201 and RL-T202 Appendix A).
- BT did not report stored RH-TRU inventories and the projected inventories have been omitted because no radionuclide information is available.
- The sum of the stored and projected volumes of RH-TRU waste from the TRU waste sites is less than the design capacity of WIPP (7080 m³) for RH-TRU waste.

- To calculate the radionuclide inventory the total projected RH-TRU waste is adjusted as follows:

- Design capacity for RH-TRU = 7080 m³
- Stored RH-TRU volume = 941 m³
- Therefore the needed projected waste volume is:

$$7080 \text{ m}^3 - 941 \text{ m}^3 = 6139 \text{ m}^3$$

- The projected RH-TRU waste volume (excluding the 2 RL and SR waste streams) is 957 m³
- The projected waste volume must be increase by the following factor to "scale" to fill the RH-TRU design capacity:

$$\frac{6139 \text{ m}^3}{957 \text{ m}^3} = 6.41$$

- Therefore, the projected radionuclide inventory for each radionuclide at each site is calculated as follows:

$$\text{Stored Radionuclide Inventory} + \left(\text{Concentration of radionuclide in stored waste in curies/m}^3 \times \text{Volume of projected waste at site} \times 6.41 \right) = \text{Total RH-TRU inventory for radionuclide at that site}$$

Table 4-2 represents the total radionuclide inventory for CH-TRU and RH-TRU wastes as derived from the Revision 10 IDB database, including any adjustment needed to the projected volumes of waste in order to fill the WIPP to the maximum CH-TRU and RH-TRU design limit.

A comparison of the disposal radionuclide inventories in Revision 0 and in Revision 1 of the WTWBIR shows large changes. Listed below are the dominant reasons for these changes:

- The total radionuclide inventory for CH-TRU waste is much higher than that included in the Revision 0 of the WTWBIR. This is primarily due to two changes:
 - The SR has reported a large volume of CH-TRU projected waste in the IDB ($\approx 62,000 \text{ m}^3$), which was previously reported as "unknown." With the historically high Pu-238 content, this considerably raises the total curies in the CH-TRU inventory.
 - During the calculations for the Revision 0 inventory, the "projected" part (1994–2022) of the CH-TRU radionuclide inventory was inadvertently left out of the totals reported, causing the inventory numbers to be low ($\approx 25\%$). This has been corrected in this inventory definition.

- The total radionuclide inventory for RH-TRU waste is also much higher than that included in the Revision 0 of the WTWBIR. During calculation of the RH-TRU inventory the volume defined by the sites included more waste than the repository could hold. During those calculations, a misunderstanding occurred about the fact that the IDB radionuclide numbers only covered the "stored" part of the inventory. This caused the Revision 0 WTWBIR reported RH-TRU inventory to be low by a factor of approximately 3 – 4. This has been corrected in this inventory definition.
- Oak Ridge National Laboratory (ORNL) has reported a very conservative inventory for U-235 in RH-TRU waste (≈ 367 curies before scaling). In order to provide a less conservative estimate of the U-235 inventory, an anticipated transportation requirement of the RH-TRU cask has been imposed.

The new estimate for U-235 in ORNL RH-TRU waste has been calculated from the anticipated initial transportation limit in the RH-TRU cask of 325 grams (DOE, 1991) of Pu-239 fissile gram equivalent (FGE). Assuming a 1:1 equivalence of U-235 FGE (as required by the TRUPACT-II SARP; Nuclear Packaging, 1991) to Pu-239, this provides a bounding limit of 325 grams of U-235/canister \times 7955 canisters \times 2.19×10^{-6} curies/gram = 5.66 curies of U-235 in RH-TRU waste inventory. This number has been substituted in Table 4-2 to replace the overly conservative data reported by ORNL.

Table 4-1. CH-TRU and RH-TRU IDB Waste Inventories

| CH-TRU Site | Stored IDB-ORNL (m³) | Projected IDB-ORNL (m³) |
|--------------------|--|---|
| AE | 29.1 | 180.0 |
| AL | 0.0 | 0.06 |
| BT | 0.0 | 123.5 |
| ET | 1.9 | 10.4 |
| IN ¹ | 64774.0 | 0.0 |
| KA | 0.0 | 0.0 |
| LA | 10810.9 | 14475.0 |
| LB | 0.9 | 2.7 |
| LL | 235.0 | 2442.3 |
| MD | 11.9 | 0.0 |
| MU | 0.1 | 0.0 |
| NT | 607.1 | 0.0 |
| OR | 2015.2 | 654.7 |
| PA | 4.3 | 0.0 |
| PX | 0.6 | 0.0 |
| RF | 1040.0 | 3765.4 |
| RL ² | 15608.9 | 29198.0 |
| SA | 0.9 | 36.0 |
| SR ⁴ | 8925.9 | 13700.0 |
| Sum CH-TRU | 104066.7 | 64588.06 |
| RH-TRU Site | Stored IDB-ORNL (m³) | Projected IDB-ORNL (m³) |
| AE | 1.7 | 45.9 |
| BT | 0.0 | 1.54 |
| IN | 79.8 | 162.0 |
| KA | 2.4 | 25.0 |
| LA | 91.3 | 280.0 |
| OR | 563.9 | 442.3 |
| RL | 201.0 | 41232.0* |
| SA | 0.9 | 7.0* |
| SR ⁴ | 0.0 | 35.9* |
| Sum RH-TRU | 941.0³ | 956.74 |

* Excluded from the IDB-based RH-TRU radionuclide inventory rollups because no radionuclide information was submitted.

1. 40% of this stored inventory assumed to be low-level waste.
2. 50% of this stored inventory assumed to be low-level waste.
3. Does not include 5.3 m³ of RH-TRU at NTS which is anticipated to be CH-TRU after repackaging.
4. The IDB volumes for SRS projected CH-TRU and RH-TRU waste have been corrected since issuance of the Draft Revision 10 IDB (Appendix I).

Table 4-2. Disposal Radionuclide Inventory

| Nuclide | Total CH | Total RH |
|---------|----------|----------|
| AC-225 | 2.03E+00 | 3.28E-01 |
| AC-227 | 6.55E-01 | 1.52E-02 |
| AC-228 | 5.27E-01 | 4.08E-03 |
| AG-109M | 4.85E+01 | NR |
| AG-110 | 5.61E-06 | 1.07E-05 |
| AG-110M | 4.21E-04 | 8.06E-04 |
| AM-241 | 2.23E+05 | 5.30E+02 |
| AM-242 | 4.93E-02 | NR |
| AM-242M | 4.96E-02 | NR |
| AM-243 | 2.94E+01 | 1.22E-02 |
| AM-245 | 9.07E-09 | 2.52E-14 |
| AT-217 | 2.03E+00 | 3.28E-01 |
| BA-137M | 5.03E+03 | 3.10E+05 |
| BI-210 | 1.01E+00 | 4.09E-11 |
| BI-211 | 6.57E-01 | 1.46E-02 |
| BI-212 | 2.77E+01 | 9.03E+00 |
| BI-213 | 2.03E+00 | 3.28E-01 |
| BI-214 | 5.84E+00 | 7.23E-10 |
| BK-249 | 6.25E-04 | 1.74E-09 |
| BK-250 | 2.35E-06 | NR |
| C-14 | 1.83E+01 | 1.51E+02 |
| CD-109 | 4.85E+01 | NR |
| CD-113M | 4.65E-05 | 2.36E-05 |
| CE-144 | 8.22E+01 | 5.58E+02 |
| CF-249 | 1.56E+00 | 8.11E-02 |
| CF-250 | 3.54E-01 | NR |

NR = Not reported by sites.

Table 4-2. Disposal Radionuclide Inventory (continued)

| Nuclide | Total CH | Total RH |
|---------|-----------|----------|
| CF-251 | 3.93E-03 | NR |
| CF-252 | 1.85E+02 | 5.11E+01 |
| CM-242 | 1.48E-02 | NR |
| CM-243 | 1.33E+00 | 2.01E+03 |
| CM-244 | 5.40E+03 | 1.07E+04 |
| CM-245 | 5.16E+01 | 1.32E-05 |
| CM-246 | 1.10E-01 | NR |
| CM-247 | 2.98E-09 | NR |
| CM-248 | 5.06E-02 | 2.34E-03 |
| CO-58 | 5.50E-05 | 7.92E-07 |
| CO-60 | 1.53E+02 | 1.08E+04 |
| CR-51 | NR | 2.54E-31 |
| CS-134 | 5.88E+00 | 2.15E+03 |
| CS-135 | 7.90E-03 | 4.58E-03 |
| CS-137 | 5.32E+03 | 3.28E+05 |
| ES-254 | 2.35E-06 | NR |
| EU-150 | 3.65E-05 | NR |
| EU-152 | 7.41E+00 | 5.28E+04 |
| EU-154 | 3.05E+01 | 2.76E+04 |
| EU-155 | 4.14E+01 | 6.78E+03 |
| FE-55 | 3.296E-05 | 1.44E+01 |
| FE-59 | 1.96E-02 | 4.04E-19 |
| FR-221 | 2.03E+00 | 3.28E-01 |
| FR-223 | 9.04E-03 | 2.10E-04 |
| H-3 | 9.64E-01 | 8.23E+01 |
| I-129 | 1.28E-09 | NR |

NR = Not reported by sites.

Table 4-2. Disposal Radionuclide Inventory (continued)

| Nuclide | Total CH | Total RH |
|---------|----------|----------|
| KR-85 | 2.24E-01 | 9.58E+01 |
| MN-54 | 1.12E-02 | 2.76E+00 |
| NB-95 | 4.96E-01 | 9.90E+00 |
| NB-95M | 1.66E-03 | 3.41E-02 |
| NI-59 | 3.38E-03 | NR |
| NI-63 | 4.19E-01 | 5.03E+01 |
| NP-237 | 8.82E+01 | 1.18E-02 |
| NP-238 | 2.48E-04 | NR |
| NP-239 | 2.94E+01 | 1.22E-02 |
| NP-240 | 1.10E-09 | 1.78E-13 |
| NP-240M | 1.00E-06 | 1.62E-10 |
| PA-231 | 4.08E-03 | 1.78E-01 |
| PA-233 | 3.32E+01 | 1.18E-02 |
| PA-234 | 2.44E-02 | 1.70E-02 |
| PA-234M | 1.88E+01 | 1.31E+01 |
| PB-209 | 2.03E+00 | 3.28E-01 |
| PB-210 | 1.01E+00 | 4.09E-11 |
| PB-211 | 6.57E-01 | 1.46E-02 |
| PB-212 | 2.77E+01 | 9.03E+00 |
| PB-214 | 5.84E+00 | 7.23E-10 |
| PD-107 | 1.17E-03 | 6.77E-04 |
| PM-147 | 1.26E+03 | 4.10E+03 |
| PO-210 | 8.92E-01 | 3.05E-11 |
| PO-211 | 1.79E-03 | 3.98E-05 |
| PO-212 | 1.78E+01 | 5.78E+00 |
| PO-213 | 1.99E+00 | 3.21E-01 |

NR = Not reported by sites.

Table 4-2. Disposal Radionuclide Inventory (continued)

| Nuclide | Total CH | Total RH |
|---------|----------|----------|
| PO-214 | 5.84E+00 | 7.23E-10 |
| PO-215 | 6.57E-01 | 1.46E-02 |
| PO-216 | 2.77E+01 | 9.03E+00 |
| PO-218 | 5.84E+00 | 7.23E-10 |
| PR-144 | 8.22E+01 | 5.58E+02 |
| PU-236 | 1.69E-02 | NR |
| PU-238 | 1.89E+06 | 3.53E+03 |
| PU-239 | 3.85E+05 | 6.41E+03 |
| PU-240 | 7.22E+04 | 1.74E+02 |
| PU-241 | 1.01E+06 | 9.06E+02 |
| PU-242 | 1.27E+03 | 1.48E-02 |
| PU-243 | 2.98E-09 | NR |
| PU-244 | 1.00E-06 | 1.62E-10 |
| RA-223 | 6.57E-01 | 1.46E-02 |
| RA-224 | 2.77E+01 | 9.03E+00 |
| RA-225 | 2.04E+00 | 3.31E-01 |
| RA-226 | 5.84E+00 | 7.23E-10 |
| RA-228 | 5.27E-01 | 4.08E-03 |
| RH-106 | 4.02E+01 | 8.42E+02 |
| RN-219 | 6.57E-01 | 1.46E-02 |
| RN-220 | 2.77E+01 | 9.03E+00 |
| RN-222 | 5.84E+00 | 7.23E-10 |
| RU-106 | 4.02E+01 | 8.42E+02 |
| SB-125 | 1.58E+01 | 2.46E+03 |
| SB-126 | 2.13E-03 | 1.23E-03 |
| SB-126M | 1.52E-02 | 8.80E-03 |

NR = Not reported by sites.

Table 4-2. Disposal Radionuclide Inventory (continued)

| Nuclide | Total CH | Total RH |
|---------|----------|----------|
| SE-79 | 6.86E-03 | 3.97E-03 |
| SM-151 | 2.50E+01 | 1.42E+01 |
| SN-119M | 6.80E-03 | 1.37E-02 |
| SN-121M | 4.82E-01 | 2.69E-01 |
| SN-126 | 1.52E-02 | 8.80E-03 |
| SR-90 | 4.07E+03 | 6.68E+05 |
| TA-182 | NR | 1.72E-04 |
| TC-99 | 2.46E+01 | 2.28E-01 |
| TE-125M | 6.55E-04 | 1.01E+03 |
| TE-127 | 3.07E-02 | 1.13E-01 |
| TE-127M | 3.15E-02 | 1.15E-01 |
| TH-227 | 6.56E-01 | 1.48E-02 |
| TH-228 | 2.77E+01 | 9.04E+00 |
| TH-229 | 2.05E+00 | 3.36E-01 |
| TH-230 | 4.90E-02 | 8.79E-07 |
| TH-231 | 2.88E+00 | 2.21E+03 |
| TH-232 | 6.07E-01 | 7.09E-03 |
| TH-234 | 1.88E+01 | 1.31E+01 |
| TL-207 | 6.56E-01 | 1.45E-02 |
| TL-208 | 9.96E+00 | 3.24E+00 |
| TL-209 | 4.39E-02 | 7.08E-03 |
| TL-210 | 1.23E-03 | 1.52E-13 |
| U-232 | 2.63E+01 | 1.16E+01 |
| U-233 | 1.38E+03 | 8.57E+02 |
| U-234 | 2.50E+02 | 4.18E-02 |
| U-235 | 2.88E+00 | 5.66E+00 |

NR = Not reported by sites.

Table 4-2. Disposal Radionuclide Inventory (continued)

| Nuclide | Total CH | Total RH |
|---------|----------|----------|
| U-236 | 1.34E-01 | 4.11E-05 |
| U-237 | 2.47E+01 | 2.22E-02 |
| U-238 | 1.88E+01 | 1.31E+01 |
| U-240 | 1.00E-06 | 1.62E-10 |
| Y-90 | 4.07E+03 | 6.68E+05 |
| ZN-65 | 1.21E-08 | NR |
| ZR-93 | 8.87E-02 | 5.14E-02 |
| ZR-95 | 2.24E-01 | 4.60E+00 |
| Total | 3.60E+06 | 2.11E+06 |

NR = Not reported by sites.

5. WASTE MATERIAL PARAMETERS

5.1 INTRODUCTION

Some waste materials that occur in TRU waste may degrade over the 10,000-year regulatory period and estimates of masses/volume are needed for performance modeling (Table 1-1). Some of these waste materials may produce gas by either chemical, microbial, or radiolytic processes (WIPP PA, 1993). These types of processes need to be evaluated as part of the WIPP SPM and PA modeling effort to analyze their impact on repository behavior.

5.2 PARAMETER DESCRIPTION

This chapter identifies and defines the waste material parameters to be evaluated in performance assessment calculations. The same methodology used for defining waste stream profiles and combining them into site-specific and WIPP waste profiles is used to develop a disposal inventory for WIPP by waste material parameters (see Figure 3-2). Waste material parameter information is provided for each waste stream profile by the TRU waste generator/storage sites (Figure 1-2). In those cases where waste material parameter information could not be provided by the TRU waste generator/storage sites, an alternative methodology was adopted as described in Section 3.1.3. This waste material parameter information is used to estimate the anticipated WIPP inventory, which is then scaled to obtain the repository design limit (disposal inventory), if needed. This inventory is presented as a weighted average with a maximum and minimum expected weight/volume for each waste material parameter.

The waste material parameter information, which is provided by the TRU waste generator/storage sites, consists of 10 waste material parameters and additional packaging materials that are direct inputs into the SPM and PA models. These are presented below.

Inorganics

- Iron-based metals/alloys – This designation is meant to include iron and steel alloys in the waste and does not include the waste container materials.
- Aluminum-based metals/alloys – Aluminum or aluminum-based alloys in the waste materials.
- Other Metals – All other metals found in the waste materials (e.g., copper, lead, zirconium, tantalum, etc.). The lead portion of lead rubber gloves/aprons is also included in this category.
- Other Inorganic Materials – Include inorganic non-metal waste materials such as concrete, glass, firebrick, ceramics, sand, and inorganic sorbents.

Organics

- Cellulosics – Includes those materials generally derived from high polymer plant carbohydrates. Examples are paper, cardboard, kimwipes, wood, cellophane, cloth, etc.
- Rubber – Includes natural or manmade elastic latex materials. Examples are Hypalon®, neoprene, surgeons' gloves, leaded-rubber gloves (rubber part only), etc.

- Plastics – Includes generally manmade materials, often derived from petroleum feedstock. Examples are polyethylene, polyvinylchloride, Lucite, Teflon, etc.

Solidified Materials

- Inorganic Matrix – This includes any homogenous materials consisting of sludge or aqueous-based liquids that are solidified with cement, Envirostone[®], or other solidification agents. Examples are wastewater treatment sludge, cemented aqueous liquids, and inorganic particulates, etc.
- Organic Matrix – This includes cemented organic resins, solidified organic liquids, and sludges.

Soils

- Generally consists of naturally occurring soils that have been contaminated with inorganic waste materials.

Packaging Materials

The TRU waste generator/storage sites have been asked to define waste streams in each waste stream profile expressed as final waste form and volumes in containers that are currently approved for shipment. Listed below are the currently approved CH-TRU packaging configurations for TRUPACT-II (DOE, 1991) and anticipated approved RH-TRU packaging configurations (DOE, 1991):

- TRUPACT-II
 - 55-gallon drum
 - Standard Waste Box (SWB)
 - 55-gallon drums overpacked in SWB.
- RH-TRU cask (anticipated acceptable packaging configurations for the RH-TRU cask)
 - RH-TRU canister
 - three 55-gallon or 30-gallon drums overpacked in a RH-TRU canister.

In cases where the sites defined a type of waste container, but not the weight/volume of the packaging, assumptions were made about the weight of the containers in order to include these estimates as part of the overall inventory destined for WIPP. If overpacking a waste container was necessary for transport in a shipping cask, overpacking was assumed. The densities assumed are included as part of the "TRU system-wide data assumptions" included in Section 1.5.

- Steel – The weight of the steel part of the packaging from container information provided by the TRU waste generator/storage sites. Any necessary overpacking is included in the weight.
- Plastics – The weight of any plastic packaging submitted by the TRU sites. When weight of a rigid liner is not given a 90-mil HDPE liner is assumed.

- Lead – The weight of the Pb shielding in a RH canister is assumed if not provided by the TRU waste sites. The weight is included in the "Packaging Material Assumptions" in Chapter 1.5.3.

5.3 METHODOLOGY

The rollups of waste material parameters by WMCGs or by site use the volumes from the WTWBID. The roll ups by WMCGs or by site require combining data from several WTWBID waste streams. The averages for the material parameters are calculated from the average densities provided by the TRU waste generator/storage sites modified by the WTWBID volume fractions and summed as follows:

$$\begin{array}{l} \text{Average Density} \\ \text{of waste material} \\ \text{parameter} \end{array} = \text{Average Density}_i \times \frac{\begin{array}{c} \text{(Volume WTWBIR} \\ \text{Stream}_i) \end{array}}{\begin{array}{c} \text{(Total Volume of} \\ \text{WMCG)} \end{array}} + \dots$$

where i is an index representing individual waste streams of the same WMCG

The minimum density is chosen as the smallest minimum density of a particular waste material parameter in the WTWBID waste streams in a particular site-specific rollup. The maximum density is chosen in a similar manner, except that the largest maximum density was chosen.

In many cases, the TRU waste generator/storage sites did not have data for minimum and maximum percentages, even though average percentages are provided. In these cases, for rollup purposes only, the minimum is assumed to be zero and the maximum is assumed to be equal to the average. This ensures that the calculated and rolled up maximum densities are greater than the average densities. However, the maximum density may not be a true maximum but the maximum average density (see Chapter 7 for further WTWBID information).

5.4 WIPP WASTE MATERIAL PARAMETER ROLLUPS

The waste material parameters that are inputs into the SPM process and PA models are presented in Table 5-1 for CH-TRU waste and Table 5-2 for RH-TRU waste. These tables represent the WIPP disposal inventory of waste material parameters. These waste material parameters are the final rollups of the WIPP waste profiles in Figures 3-4 to 3-23.

5.5 UTILIZATION OF WASTE MATERIAL PARAMETER DATA IN APPLICATIONS

The waste material parameter data presented in Tables 5-1 and 5-2 must be used with certain limitations. If the "average" weight/volume (density) composition of CH-TRU and RH-TRU wastes in terms of the waste material parameters is needed then the middle column of Tables 5-1 and 5-2 labelled "Average" should be used in the calculations. If the task requires a distribution of values then the "Maximum" and "Minimum" columns should be used in conjunction with the "Average" column with the following limitations:

Table 5-1

WIPP CH-TRU Waste Material Parameter Disposal Inventory

| | | (Kg/m3) | | |
|-----------------------------|-------------------------|----------------|----------------|----------------|
| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
| Inorganics | Iron Based | 2.1E+03 | 8.3E+01 | 0.0E+00 |
| | Aluminum Based | 1.0E+03 | 1.2E+01 | 0.0E+00 |
| | Other Metals | 1.4E+03 | 2.7E+01 | 0.0E+00 |
| | Other Inorganics | 2.1E+03 | 3.9E+01 | 0.0E+00 |
| Organics | Cellulose | 9.6E+02 | 1.7E+02 | 0.0E+00 |
| | Rubber | 6.8E+02 | 2.1E+01 | 0.0E+00 |
| | Plastics | 8.9E+02 | 6.3E+01 | 0.0E+00 |
| Solidified Materials | Inorganic | 2.2E+03 | 1.3E+02 | 0.0E+00 |
| | Organic | 1.4E+03 | 8.4E+00 | 0.0E+00 |
| Soils | | 1.6E+03 | 5.7E+00 | 0.0E+00 |
| Container Materials | | | | |
| | Steel | | 137 | |
| | Plastic/ Liners | | 33 | |

Table 5-2

WIPP RH-TRU Waste Material Parameter Disposal Inventory

(Kg/m3)

| | <u>Materials</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|-----------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 1.7E+03 | 9.4E+01 | 0.0E+00 |
| | Aluminum Based | 2.6E+02 | 1.8E+01 | 0.0E+00 |
| | Other Metals | 9.1E+02 | 1.0E+01 | 0.0E+00 |
| | Other Inorganics | 2.0E+03 | 3.1E+01 | 0.0E+00 |
| Organics | Cellulose | 9.6E+02 | 2.7E+01 | 0.0E+00 |
| | Rubber | 1.9E+02 | 4.8E+00 | 0.0E+00 |
| | Plastics | 5.5E+02 | 2.4E+01 | 0.0E+00 |
| Solidified Materials | Inorganic | 1.1E+03 | 1.3E+02 | 0.0E+00 |
| | Organic | 3.7E+00 | 1.7E-03 | 0.0E+00 |
| Soils | | 1.9E+02 | 1.8E+00 | 0.0E+00 |
| Container Materials | | | | |
| | Steel | | 447 | |
| | Plastic/Liners | | 3.2 | |
| | Lead | | 465 | |
| | Steel Plug | | 2145 | |

- The sum of all the waste material parameters in the "average" column represents the "average" weight of a cubic meter of CH-TRU or RH-TRU expected at WIPP. For instance, the "average" cubic meter of CH-TRU waste expected at WIPP is (see Table 5-1):

$$559.5 \text{ kg/m}^3 \text{ CH-TRU waste} + 173 \text{ kg/m}^3 \text{ of packaging} = 732.5 \text{ kg/m}^3$$

- The weight of packaging is not expected to vary, so if any "sampling" of distributions of densities is required, the sampling should only be on the waste part of the above equation.
- If sampling of the waste material parameters is needed, the sum of the densities of all waste material parameters sampled for any iteration **SHOULD NOT EXCEED THE AVERAGE DENSITY OF THE WASTE AS DEFINED IN THE "AVERAGE" COLUMN SUMMATION.** That is, one cannot sample on the upper range for all waste material parameters or sample all waste material parameters at the lower end of the range. By default, if some waste material parameters are sampled at higher values than the average some will have to be sampled at lower values than average so that the density of the waste always remains the same (sum of the "average" column).

The same sampling methodology, if needed, should be used for the RH-TRU waste as reported in Table 5-2.

TO OBTAIN THE TOTAL WASTE MATERIAL PARAMETER WEIGHTS FOR THE DISPOSAL INVENTORY, USERS OF THE DATA SHOULD MULTIPLE THE AVERAGE DENSITIES OF THE WASTE MATERIAL PARAMETERS FOR CH-TRU (TABLE 5-1) AND RH-TRU (TABLE 5-2) BY THE DESIGN BASIS VOLUME.

For example:

The expected (average) CH-TRU inventory of combustibles for WIPP is (Table 5-1):

$$170 \text{ kg/m}^3 \times 176,000 \text{ m}^3 \text{ (design basis)} = 29,900,000 \text{ kg combustibles}$$

For steel in CH-TRU waste:

$$83 \text{ kg/m}^3 \text{ (waste)} + 140 \text{ kg/m}^3 \text{ (container)} = 223 \text{ kg/m}^3$$

$$223 \text{ kg/m}^3 \times 176,000 \text{ m}^3 = 3,900,000 \text{ kg steel}$$

6. STORED AND PROJECTED CH-TRU AND RH-TRU INVENTORIES BY SITE

As described in Chapter 3, each waste stream from each waste generating/storage site is characterized in a waste stream profile (Appendix A). These waste stream profiles are rolled up by WMCGs for each generator/storage site. Summary tables of contact-handled and remote-handled waste volumes are provided in Tables 6-1 and 6-2. Summary profiles of waste volumes by WMCG for each site are provided in Tables 6-3 through 6-22.

TRANSURANIC WASTE DISPOSAL INVENTORY BY SITE

| Contact Handled Waste | | (Cubic Meters) | |
|-------------------------|-----------------|-------------------|---------------------|
| Storage/Generator Site | Stored Volumes* | Projected Volumes | Anticipated Volumes |
| AMES LAB | 0.0E+00 | 1.0E-01 | 1.0E-01 |
| ANL-E | 2.9E+01 | 1.7E+00 | 3.1E+01 |
| ANL-W | 2.0E-02 | 5.8E+00 | 5.9E+00 |
| BT | 0.0E+00 | 1.2E+02 | 1.2E+02 |
| ETEC | 1.9E+00 | 5.2E+00 | 7.1E+00 |
| HANFORD | 9.3E+03 | 2.1E+04 | 3.1E+04 |
| INEL | 3.5E+04 | 1.0E+00 | 3.5E+04 |
| KAPL | 2.4E+00 | 0.0E+00 | 2.4E+00 |
| LANL | 1.1E+04 | 7.7E+03 | 1.9E+04 |
| LBL | 8.4E-01 | 4.4E+00 | 5.3E+00 |
| LLNL | 2.1E+02 | 6.9E+02 | 9.0E+02 |
| MOUND | 2.6E+02 | 0.0E+00 | 2.6E+02 |
| MU | 6.0E-02 | 1.6E+00 | 1.7E+00 |
| NTS | 6.2E+02 | 0.0E+00 | 6.2E+02 |
| ORNL | 7.8E+02 | 2.6E+02 | 1.0E+03 |
| PA | 3.5E+00 | 0.0E+00 | 3.5E+00 |
| PANTEX | 6.2E-01 | 0.0E+00 | 6.2E-01 |
| RFP | 1.1E+03 | 5.9E+03 | 7.0E+03 |
| SNL/NM | 8.0E+00 | 7.0E+00 | 1.5E+01 |
| SRS | 1.5E+04 | 1.5E+04 | 2.9E+04 |
| Total CH Volumes | 7.3E+04 | 5.1E+04 | 1.2E+05 |

* A small amount of Hanford stored CH waste (2.0E+02 cubic meters) is expected to be retrieved and packaged as RH waste

Table 6-1: Contact Handled Transuranic Waste Disposal Inventory by Site

TRANSURANIC WASTE DISPOSAL INVENTORY BY SITE

| Remote Handled Waste | | (Cubic Meters) | |
|-------------------------------|-----------------------|--------------------------|----------------------------|
| Storage/Generator Site | Stored Volumes | Projected Volumes | Anticipated Volumes |
| ANL-W | 8.7E+00 | 2.8E+01 | 3.6E+01 |
| BCLDP | 0.0E+00 | 7.1E+01 | 7.1E+01 |
| BT | 0.0E+00 | 1.6E+00 | 1.6E+00 |
| HANFORD | 3.3E+01 | 3.0E+03 | 3.0E+03 |
| INEL | 3.1E+01 | 1.7E+01 | 4.8E+01 |
| KAPL | 1.1E+01 | 2.5E+01 | 3.6E+01 |
| LANL | 9.1E+01 | 8.3E+01 | 1.7E+02 |
| ORNL | 9.9E+02 | 3.6E+02 | 1.4E+03 |
| SRS | 0.0E+00 | 6.4E+01 | 6.4E+01 |
| Total RH Volumes | 1.2E+03 | 3.6E+03 | 4.8E+03 |

Table 6-2: Remote Handled Transuranic Waste Disposal Inventory by Site

SITE TRANSURANIC WASTE VOLUMES

Site Name: AMES LAB**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| <hr/> | | | |
| Contact Handled Waste | | | |
| Solidified Inorganics | 0 | 0.1 | 0.1 |
| Total CH Volumes | <hr/> 0.00 | <hr/> 0.10 | <hr/> 0.10 |

Table 6 - 3; AMES LAB Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: ANL-E**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| <hr/> | | | |
| Contact Handled Waste | | | |
| Lead/Cadmium Metal Waste | 1.1 | 0 | 1.1 |
| Solidified Inorganics | 23.045 | 1.12 | 24.165 |
| Solidified Organics | 0.025 | 0 | 0.025 |
| Uncategorized Metal | 4.96 | 0.56 | 5.52 |
| Total CH Volumes | 29.13 | 1.68 | 30.81 |

Table 6 - 4; ANL-E Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: ANL-W**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| Contact Handled Waste | | | |
| Heterogeneous | 0 | 3.36 | 3.36 |
| Lead/Cadmium Metal Waste | 0.02 | 2.48 | 2.5 |
| Total CH Volumes | 0.02 | 5.84 | 5.86 |
| Remote Handled Waste | | | |
| Filter | 0.89 | 2.09 | 2.98 |
| Heterogeneous | 0.59 | 0.08 | 0.67 |
| Lead/Cadmium Metal Waste | 0 | 0.36 | 0.36 |
| Uncategorized Metal | 7.172 | 1.36 | 8.532 |
| Unknown | 0 | 23.736 | 23.736 |
| Total RH Volumes | 8.65 | 27.63 | 36.28 |

Table 6 - 5; ANL-W Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: BCLDP**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| Contact Handled Waste | | | |
| Total CH Volumes | | | |
| Remote Handled Waste | | | |
| Heterogeneous | 0 | 71 | 71 |
| Total RH Volumes | 0.00 | 71.00 | 71.00 |

Table 6 - 6; BCLDP Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: BT**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|---------------|
| Contact Handled Waste | | | |
| Heterogeneous | 0 | 123.816 | 123.816 |
| Total CH Volumes | 0.00 | 123.82 | 123.82 |
| Remote Handled Waste | | | |
| Heterogeneous | 0 | 1.557 | 1.557 |
| Total RH Volumes | 0.00 | 1.56 | 1.56 |

Table 6 - 7; BT Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: ETEC**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| Contact Handled Waste | | | |
| Heterogeneous | 1.66 | 5.2 | 6.86 |
| Lead/Cadmium Metal Waste | 0.21 | 0 | 0.21 |
| Total CH Volumes | 1.87 | 5.20 | 7.07 |

Table 6 - 8; ETEC Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: HANFORD**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|-----------------|
| Contact Handled Waste | | | |
| Combustible | 526.48 | 12269.027 | 12795.507 |
| Heterogeneous | 8568.55 | 827.157 | 9395.707 |
| Lead/Cadmium Metal Waste | 3.13 | 0.29 | 3.42 |
| Soils | 111.69 | 309.27 | 420.96 |
| Solidified Inorganics | 1.46 | 2924.759 | 2926.219 |
| Solidified Organics | 2.17 | 15.248 | 17.418 |
| Uncategorized Metal | 103.35 | 4890.948 | 4994.298 |
| Total CH Volumes | 9316.83 | 21236.70 | 30553.53 |
| Remote Handled Waste | | | |
| Heterogeneous | 33.163 | 2973.71 | 3006.873 |
| Total RH Volumes | 33.16 | 2973.71 | 3006.87 |

Table 6 - 9; HANFORD Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: INEL

(Cubic Meters)

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|--------------------|--------------|-----------------|
| Contact Handled Waste | | | |
| Combustible | 670.9 | 0 | 670.9 |
| Filter | 323.56 | 0 | 323.56 |
| Graphite | 650.7 | 0 | 650.7 |
| Heterogeneous | 9649.5 | 1 | 9650.5 |
| Inorganic Non-metal | 1052.89 | 0 | 1052.89 |
| Salt Waste | 22.91 | 0 | 22.91 |
| Soils | 3.8 | 0 | 3.8 |
| Solidified Inorganics | 12164.28 | 0 | 12164.28 |
| Solidified Organics | 912.6 | 0 | 912.6 |
| Uncategorized Metal | 7564.09 | 0 | 7564.09 |
| Unknown | 1655.91 | 0 | 1655.91 |
| Total CH Volumes | 34671.14 | 1.00 | 34672.14 |
| Remote Handled Waste | | | |
| Heterogeneous | 13.634 | 2.8 | 16.434 |
| Lead/Cadmium Metal Waste | 0 | 5.6 | 5.6 |
| Salt Waste | 0 | 2.8 | 2.8 |
| Solidified Inorganics | 2.1 | 0 | 2.1 |
| Uncategorized Metal | 4.11 | 5.6 | 9.71 |
| Unknown | 11.13 | 0 | 11.13 |
| Total RH Volumes | 30.97 | 16.80 | 47.77 |

Table 6 - 10; INEL Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: KAPL**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| Contact Handled Waste | | | |
| Heterogeneous | 2.4 | 0 | 2.4 |
| Total CH Volumes | 2.40 | 0.00 | 2.40 |
| Remote Handled Waste | | | |
| Heterogeneous | 11.23 | 25.23 | 36.46 |
| Total RH Volumes | 11.23 | 25.23 | 36.46 |

Table 6 - 11; KAPL Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: LANL**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|-----------------|
| Contact Handled Waste | | | |
| Combustible | 1768.33 | 2464.6 | 4232.93 |
| Soils | 109.37 | 144.6 | 253.97 |
| Solidified Inorganics | 4848.38 | 2059.03 | 6907.41 |
| Uncategorized Metal | 4134.8 | 3006.17 | 7140.97 |
| Total CH Volumes | 10860.88 | 7674.40 | 18535.28 |
| Remote Handled Waste | | | |
| Combustible | 14.84 | 3.16 | 18 |
| Uncategorized Metal | 76.46 | 79.5 | 155.96 |
| Total RH Volumes | 91.30 | 82.66 | 173.96 |

Table 6 - 12; LANL Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: LBL**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| Contact Handled Waste | | | |
| Heterogeneous | 0.84 | 4.42 | 5.26 |
| Total CH Volumes | 0.84 | 4.42 | 5.26 |

Table 6 - 13; LBL Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: LLNL**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|---------------|
| Contact Handled Waste | | | |
| Combustible | 48.882 | 372.32 | 421.202 |
| Salt Waste | 0.624 | 2.912 | 3.536 |
| Solidified Inorganics | 13.303 | 66.148 | 79.451 |
| Uncategorized Metal | 144.326 | 247 | 391.326 |
| Total CH Volumes | 207.14 | 688.38 | 895.52 |

Table 6 - 14; LLNL Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: MOUND**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| <hr/> | | | |
| Contact Handled Waste | | | |
| Combustible | 5.61 | 0 | 5.61 |
| Heterogeneous | 0.416 | 0 | 0.416 |
| Soils | 146.88 | 0 | 146.88 |
| Solidified Inorganics | 7.28 | 0 | 7.28 |
| Uncategorized Metal | 102.276 | 0 | 102.276 |
| Total CH Volumes | <hr/> 262.46 | <hr/> 0.00 | <hr/> 262.46 |

Table 6 - 15; MOUND Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: MU**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| Contact Handled Waste | | | |
| Heterogeneous | 0.06 | 1.604 | 1.664 |
| Total CH Volumes | 0.06 | 1.60 | 1.66 |

Table 6 - 16; MU Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: NTS**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|---------------|
| Contact Handled Waste | | | |
| Heterogeneous | 619.5 | 0 | 619.5 |
| Total CH Volumes | 619.50 | 0.00 | 619.50 |

Table 6 - 17; NTS Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: ORNL**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|----------------|
| Contact Handled Waste | | | |
| Heterogeneous | 672.98 | 263.9 | 936.88 |
| Solidified Inorganics | 110 | 0 | 110 |
| Total CH Volumes | 782.98 | 263.90 | 1046.88 |
| Remote Handled Waste | | | |
| Heterogeneous | 382.81 | 182.7 | 565.51 |
| Solidified Inorganics | 611 | 174 | 785 |
| Total RH Volumes | 993.81 | 356.70 | 1350.51 |

Table 6 - 18; ORNL Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: PA**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| Contact Handled Waste | | | |
| Solidified Inorganics | 3.45 | 0 | 3.45 |
| Total CH Volumes | 3.45 | 0.00 | 3.45 |

Table 6 - 19; PA Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: PANTEX**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| <hr/> | | | |
| Contact Handled Waste | | | |
| Heterogeneous | 0.624 | 0 | 0.624 |
| Total CH Volumes | 0.62 | 0.00 | 0.62 |

Table 6 - 20; PANTEX Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: RFP

(Cubic Meters)

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|--------------------|----------------|----------------|
| Contact Handled Waste | | | |
| Filter | 103.96 | 1087.59 | 1191.55 |
| Graphite | 18.06 | 43.4 | 61.46 |
| Heterogeneous | 312.86 | 804.58 | 1117.44 |
| Inorganic Non-metal | 110.68 | 318.68 | 429.36 |
| Lead/Cadmium Metal Waste | 51.87 | 124.18 | 176.05 |
| Salt Waste | 9.45 | 56.6 | 66.05 |
| Solidified Inorganics | 228.63 | 2988.11 | 3216.74 |
| Solidified Organics | 132.8 | 48.82 | 181.62 |
| Uncategorized Metal | 164.82 | 429.5 | 594.32 |
| Total CH Volumes | 1133.13 | 5901.46 | 7034.59 |

Table 6 - 21; RFP Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: SNL/NM**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|--------------|
| Contact Handled Waste | | | |
| Heterogeneous | 8.04 | 7 | 15.04 |
| Total CH Volumes | 8.04 | 7.00 | 15.04 |

Table 6 - 22; SNL/NM Final Waste Form Volumes

SITE TRANSURANIC WASTE VOLUMES

Site Name: SRS**(Cubic Meters)**

| Final Waste Form | Retrievably Stored | Projected | Total |
|------------------------------|---------------------------|------------------|-----------------|
| Contact Handled Waste | | | |
| Combustible | 4066.8 | 11962.5 | 16029.3 |
| Heterogeneous | 10132.2 | 2563.6 | 12695.8 |
| Solidified Inorganics | 0.04 | 0 | 0.04 |
| Solidified Organics | 404.85 | 240.7 | 645.55 |
| Total CH Volumes | 14603.89 | 14766.80 | 29370.69 |
| Remote Handled Waste | | | |
| Heterogeneous | 0 | 63.92 | 63.92 |
| Total RH Volumes | 0.00 | 63.92 | 63.92 |

Table 6 - 23; SRS Final Waste Form Volumes

7. WIPP TRANSURANIC WASTE BASELINE INVENTORY DATABASE

A WIPP Transuranic Waste Baseline Inventory Database (WTWBID) has been developed to support the Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report (WTWBIR). This database was used to roll up the waste data and print out the various tables and reports used in the WTWBIR. The database is operated in the Microsoft Access Vs. 2.0 system.

7.1 DATABASE DESCRIPTION

The database actually consists of two databases with essentially the same primary data tables. The first database is WTWBIR.MDB. This database contains the original data submitted by the sites or agreed with the sites through discussions with WTWBIR personnel. This database is used to produce the forms in Appendix A. The second database is called REPORTS.MDB and is used to produce the tables and figures in the rest of the report. There are two databases because the basic data in WTWBIR.MDB must be manipulated to produce rational roll ups of the data for the reports and figures. These manipulations are described in this section of the report.

Each record in the database represents one waste stream as defined by a unique waste stream ID (WIPP_ID). In the case where the WTWBIR waste stream is the same as a waste stream reported in phase 2 of the MWIR, the WIPP_ID is the same as the MWIR ID (UNIQUE_WS). Some streams, primarily non mixed and a few mixed waste streams, were not reported in the MWIR. In these cases, if the site did not assign a proper ID, a WIPP_ID was assigned by the WTWBIR team.

The reports and tables produced for the WTWBIR are produced from different data sorts based on the WTWBIR-ID, Site_Name, Handling and Final_Waste_Form fields. The Site_Name refers to the sites as defined in the field WS_SITE. The Site_Name specifies the site which reported and is typically storing the waste. The generator site may differ from the storage site. The Handling field defines whether the waste is categorized as CH or RH waste. The Final_Waste_Form defines a general grouping based on the physical and chemical properties in the waste stream. These are broader waste matrix code groupings (WMCG) (Table 1-2) based generally on the MWIR treatability groups which are described in the MWIR form instructions. In Revision 0 of the WTWBIR, these Final_Waste_Forms were referred to as Matrix_Names.

The volumes are rolled up from the cumulative stored volumes and projected volumes provided by the sites. The stored volumes are based on the cumulative end of 1993 volumes in the database. Some sites provided stored volumes for 1992 and projected volumes for 1993 while other sites provided stored volumes for 1993. In order to be consistent, the stored volumes for sites that based their stored volumes on 1992 were calculated by adding the 1992 volume to the 1993 projected volume. Projected volumes were calculated by adding the volumes for 1994 through 2022.

In Table 3-5, a column was calculated to match the maximum design capacity of WIPP for CH waste. This was done by increasing all the Final_Waste_Form projected volumes proportionately, except Unknown, so that the total CH volume would equal the maximum WIPP capacity. Additional waste volume was calculated for each waste stream proportionate to the projected volumes for each stream such that the sum of the scaled volumes for contact handled waste equaled 175,600 cubic meters. Enough waste is already identified to fill the WIPP to capacity for remote handled waste.

The other fields used to develop roll ups for the tables in the reports are the waste material parameters. The sites were asked to estimate an average, minimum and maximum concentration of materials in each waste stream. For example, weights of metals such as brass, copper, tantalum and materials simply described as metals were rolled up under the field OM_xxx (where xxx is min, max, or avg) which stands for "Other Metals" (see the data dictionary; Table 7-1). Note that because some materials are described only as metals, aluminum and iron can be in the OM_xxx field as well as in the IB_xxx or AB_xxx fields.

Two categories of sludges and solidified materials are represented by fields. These are solidified inorganic solids (SIM_xxx) and solidified organic solids (SOM_xxx). The particular category into which a sludge or solidified material is placed is determined by the overall matrix of the resulting material after any solidification or stabilization steps. For example, a small amount of organic liquids/sludges solidified in cement would be placed in the solidified inorganics category and a drum of organic based resin beads solidified would be placed in the solidified organics category.

The rest of the fields are reasonably self explanatory, but additional discussion on Cel_xxx, Rub_xxx, and Plas_xxx, may be helpful. Cel_xxx includes all cellulose base materials and will typically include paper, cloth, wood, kimwipes and other materials derived from plant based materials. It is assumed that cloth is plant derived material such as cotton and not plastic based such as rayon or nylon. Rub_xxx consists of rubber based materials. Included in this category are Hypalon®, neoprene, and surgeons gloves. Plas_xxx represents plastics such as Lucite®, polyethylene, Tyvek®, teflon and polyvinyl chloride. Plastic bags are used extensively in packaging the waste and would be included in this category. The plastic drum or container liners were not included in this category and were requested separately.

The parameter information is manipulated so that the waste material parameters can be added up and averaged at WIPP, site and Final Waste Form levels. Waste streams for which no waste parameters are provided or for which average, minimum and maximum parameters are not all provided cannot be rationally averaged and summed. Therefore, in order to calculate averaged parameters from the waste stream data provided, certain manipulations on the data are necessary. These manipulations are summarized below. If the parameters for a particular waste material were incomplete, the following assumptions were used to adjust the data so that rational averages and sums could be accomplished:

- If no minimum was provided, but a maximum was provided, the minimum was assumed to be zero.
- If a maximum was provided, but no average, the average was assumed to be one half the sum of the maximum and minimum.
- If an average was provided but no minimum or maximum, the average was assigned to the minimum and maximum.
- If only a minimum was provided, the minimum was assigned to both the maximum and the average.

For those waste streams that did not have any waste parameter information provided, but which could be assigned to a final waste form, an average set of parameters was calculated and used. This average set of parameters was calculated by volume averaging the parameters provided for other waste streams with the same final waste form.

The data that is printed out on all the tables in the report is based on these calculations and assumptions. The individual stream data printed out in Appendix A is the original unmanipulated data submitted by the generator/storage sites or agreed to by the sites through discussions and questions with the WTWBIR team.

The roll ups of these material parameters for tables in the report by Final_Waste_Form or by site were performed using a volume weighted averaging procedure. The averages for the material parameters for a Final_Waste_Forms (FWF) are calculated as follows:

$$\text{Average Density of FWF parameter}_i = \text{Density of Parameter}_i \times \frac{(\text{Volume in Stream}_i)}{(\text{Total Volume in FWF})} + \dots$$

where i is an index representing individual waste streams of the same FWF.

The minimum density is chosen as the smallest minimum density of a particular material parameter in the WTWBIR streams in a particular Final_Waste_Form. The maximum density is chosen in a similar manner except that the largest maximum density was chosen. Note that the maximum and minimum densities apply to individual containers and cannot be used to directly calculate a maximum and minimum density of particular material parameters for the entire WIPP inventory. Also note, that it is possible, that the maximum density may not be a true maximum but a maximum average density, if a site provided only averages and no maximums and these averages are higher than other sites' maximums.

The amount of and type of materials in the containers and liners was requested separately in the waste stream profiles. Many of the sites did not provide data for final form WIPP approved containers. Some sites provided current containers, some did not provide containers and some provided final form containers. In order to add up packaging materials for the waste as it would arrive at WIPP, standard container configurations were assumed for waste from all sites.

If the site provided final form containers, the final form containers (drums, SWBs, or RH Canisters) were used, but standard liners were assumed. This was done because many sites did not provide liner information and assuming standard liners will generally maximize the amount of liner material.

For CH waste containers, the following assumptions were used:

- If the type of container was unclear, it was assumed to be drums. (This was rare.)
- If drums were reported they are assumed to be WIPP approved drums with rigid liners. Many sites have a mixture of liner types in a stream or are unsure of liners.
- If waste was reported in containers larger than drums, then the waste was divided into (Standard Waste Boxes) SWBs with standard plastic bag liners; using the standard internal volume for SWBs and the reported waste stream volumes to determine the number of SWBs.
- If the waste was reported in a liquid or sludge form (i.e. tanks), it was assumed to be placed in drums with rigid liners. No treatment volume expansion was included unless provided by the site.

For RH waste, the following assumptions were used:

- If the waste was reported in drums, the drums were assumed to be overpacked in RH canisters at 3 drums per canister.
- If the waste was not reported to be in drums, the waste was assumed to be direct loaded into RH canisters; using the standard internal volume for RH canisters and the reported waste stream volumes to determine the number of RH canisters.

Packaging material weights used in the WTWBIR report are shown in the table below:

Table 7-1. Table of Materials for CH and RH Waste Containers
(Weights in kg per container, Volume in m³ per container)

| CH Waste | | | |
|-----------------------------|------------------|---------|-----------------------------------|
| Container Characteristic | Drum | SWB | SWB Overpack ¹ |
| Steel Weight | 27.3 | 290.9 | 400.1 (include. 4 drums |
| Liner Type | Rigid Drum Liner | Bag | Rigid Drum Liners and Bag |
| Liner Material | 90 mil HDPE | Plastic | 90 mil HDPE and Plastic |
| Liner Weight | 7.7 | 2.2 | 33 |
| Volume (Capacity) | 0.208 | 1.89 | 1.89 |
| Payload Volume ² | 0.208 | 1.89 | 0.832 (4 drums) |
| RH Waste | | | |
| Container Characteristics | RH Canister | | RH Canister Overpack ³ |
| Steel Weight | 387.3 | | 469.2 (3 drums) |
| Lead Weight | 413.6 | | 413.6 |
| Steel Plug Weight | 1909.1 | | 1909.1 |
| Liner Type | None | | Rigid Liner in Drums |
| Liner Material | N/A | | 90 mil HDPE |
| Liner Weight | N/A | | 23.1 |
| Volume (Capacity) | 0.89 | | 0.89 |
| Payload Volume ² | 0.89 | | 0.624 (3 drums) |

¹ Four drums overpacked in an SWB

² Payload volume is the actual volume of waste which can be placed in the container.

³ Three drums overpacked in an RH Canister

The tables and reports for the WTWBIR were produced using the facilities provided by the Microsoft Access Vs 2.0 database system. These tables and reports consist primarily of various sorts based on waste streams, final waste forms, sites, etc. and summations of volumes and material parameter weights.

7.2 DATA DICTIONARY

Table 7-2. WTWBID Data Dictionary

| Field/Table Name | Notes | Description |
|---|---|---|
| Table: Container_Data WIPP_ID | Key Field Index Relating from Page_1 data table | The unique waste stream identification number as assigned by the WTWBIR Team |
| MWIR_ID | | The unique waste stream identification number as listed in the Mixed Waste Inventory Report |
| Cont | Key Field to relate to Nuclides data table | Container (SWB, Std Drum, or RH Canister) |
| Counter | | Access 2.0-generated record identifier |
| MWIR_Cont | | The type of container as listed in the MWIR |
| Type/Size | | type and/or size of container |
| Param | | Parameter Information Reported? |
| RAD | | Yes - Isotopes listed; No - None Listed; Quan - Concentrations listed |
| Container Material | | Material of which the waste container is made |
| Ext_Volume | | cubic meters per container |
| Liner_type | | Nomenclature identifying the type and size of liner. |
| Liner_material | | composition of liner |
| Nbr_Stored | | number of this type of container stored. |
| Nbr_Projected | | Total number of this container for this waste stream projected through the life of the WIPP |
| IB_avg | | Iron-based constituents, Average, in kg/m3 |
| IB_min | | Iron-based constituents, Minimum, in kg/m3 |
| IB_max | | Iron-based constituents, Maximum, in kg/m3 |
| AB_avg | | Aluminum-based constituents, Average, in kg/m3 |
| AB_min | | Aluminum-based constituents, Minimum, in kg/m3 |
| AB_max | | Aluminum-based constituents, Maximum, in kg/m3 |
| OM_avg | | Other metals constituents, Average, in kg/m3 |
| OM_min | | Other metals constituents, Minimum, in kg/m3 |
| OM_max | | Other metals constituents, Maximum, in kg/m3 |
| OI_avg | | Other inorganics constituents, Average, in kg/m3 |

Table 7-2. WTWBID Data Dictionary (continued)

| Field/Table Name | Notes | Description |
|------------------------|-------|---|
| OI_Min | | Other inorganics constituents, Minimum, in kg/m3 |
| OI_max | | Other inorganics constituents, Maximum, in kg/m3 |
| Cel_avg | | Cellulosics constituents, Average, in kg/m3 |
| Cel_min | | Cellulosics constituents, Minimum, in kg/m3 |
| Cel_max | | Cellulosics constituents, Maximum, in kg/m3 |
| Rub_avg | | Rubber constituents, Average, in kg/m3 |
| Rub_min | | Rubber constituents, Minimum, in kg/m3 |
| Rub_max | | Rubber constituents, Maximum, in kg/m3 |
| Plas_avg | | Plastic constituents, Average, in kg/m3 |
| Plas_min | | Plastic constituents, Minimum, in kg/m3 |
| Plas_max | | Plastic constituents, Maximum, in kg/m3 |
| SIM_avg | | Solidified Inorganic Materials constituents, Average, in kg/m3 |
| SIM_min | | Solidified Inorganic Materials constituents, Minimum, in kg/m3 |
| SIM_max | | Solidified Inorganic Materials constituents, Maximum, in kg/m3 |
| SOM_avg | | Solidified Organic Materials constituents, Average, in kg/m3 |
| SOM_min | | Solidified Organic Materials constituents, Minimum, in kg/m3 |
| SOM_max | | Solidified Organic Materials constituents, Maximum, in kg/m3 |
| SL_avg | | Soils, Average, kg/m3 |
| SL_min | | Soils, Minimum, kg/m3 |
| SL_max | | Soils, Maximum, kg/m3 |
| PM_Steel | | Packaging materials, steel, kg/m3 |
| PM_Plastic | | Packaging materials, plastic, kg/m3 |
| End_of_92 | | Volume of this waste stream as of the end of 1992 |
| Projected_end_of_92 | | Projected volume of this waste stream as of the end of 1992 |
| FF_End_of_92 | | The Volume of this waste stream on hand at end of 1992 in it's estimated final waste form to ship to the WIPP |
| FF_Projected_end_of_92 | | Not used. |
| End_of_93 | | The cumulative waste volume at the end of the year. |

Table 7-2. WTWBID Data Dictionary (continued)

| Field/Table Name | Notes | Description |
|-----------------------------------|--|--|
| FF_End_of_93 | | The cumulative waste volume of the waste on hand at end of year in its estimated final form for shipment to the WIPP. |
| End_of_94 | | The new waste volume at the end of the year; the increment added during the year |
| FF_End_of_94 | | The new waste volume of the waste on hand at end of year in its estimated final form for shipment to the WIPP, the increment added during the year |
| End_of_95 | | The new waste volume at the end of the year; the increment added during the year |
| FF_End_of_95 | | The new waste volume of the waste on hand at end of year in its estimated final form for shipment to the WIPP, the increment added during the year |
| End_of_96 | | The waste volume at the end of the year; the increment added during the year |
| FF_End_of_96 | | The new waste volume of the waste on hand at end of year in its estimated final form for shipment to the WIPP, the increment added during the year |
| End_of_97 | | The waste volume at the end of the year; the increment added during the year |
| FF_End_of_97 | | The new waste volume of the waste on hand at end of year in its estimated final form for shipment to the WIPP, the increment added during the year |
| 98-2002 | | The waste volume added per year during the period. |
| FF_98-2002 | | The waste volume added per year during the period in its estimated final form for shipment to the WIPP. |
| 03-2022 | | The waste volume added per year during the period. |
| FF_03-2022 | | The waste volume added per year during the period in its estimated final form for shipment to the WIPP. |
| Comments | | Miscellaneous comments applicable to page 2 of the data form |
| Container_- Footnotes | | Footnotes applicable to a specific container type in a waste stream. |
| <i>Table: Page_1</i> Site_Name | | Name of site, text spelled out as specified in a look-up table (ANL-E, Hanford, INEL, AMES, etc.). |
| MWIR_ID | | Unique Waste Stream Number derived from the Mixed Waste Inventory Report. |
| WIPP_ID | Key field to relate to container_data and EPACodes data tables | WIPP specific identification number assigned by WTWBIR Team. |

Table 7-2. WTWBID Data Dictionary (continued)

| Field/Table Name | Notes | Description |
|-------------------------------|-------|---|
| LOCAL_ID | | Locally assigned ID number for the waste stream |
| Gen_Site | | The name of the site that generated the waste, regardless of the actual storage site. |
| Waste_Type | | MTRU or TRU |
| Handling | | CH or RH |
| Stream_Name | | Abbreviation Description/Name of the Stream |
| Stream_description | | Memo field to describe the type of stream |
| MWIR_matrix_code | | Matrix Code, from MWIR if applicable and relevant |
| Assigned_matrix_code | | Matrix Code assigned by WTWBIR analysts... to be left blank by sites |
| Final_Waste_Form | | This is the code of the final (to WIPP) form of the waste stream |
| Matrix_Description | | Description and comments for the waste matrix in its final form for the WIPP |
| TRUCON | | Assigned TRUCON Code |
| NoMigrationAssign | | Code assigned for purposes of the WIPP No Migration Variance Petition. |
| IDC_from_Site_- Final_Form | | IDC supplied by Site for this stream. |
| IDC_Assigned_Final_ Form | | Equivalent IDC assigned by WTWBIR analysts based on their judgement |
| Waste_Ownership | | Defense, non-defense, commercial, or unknown |
| Waste_mixed_type | | Mixed, non-mixed, suspect mixed, or unknown |
| Waste_source | | R&D, Operational, Residues, ER and D&D, ER, D&D, or Unknown |

Table 7-2. WTWBID Data Dictionary (continued)

| Field/Table Name | Notes | Description |
|--|--|---|
| TSCA_data | | Asbestos, PCBs, Asbestos & PCBs, Other (describe in comment), No, N/A, or Unknown |
| Storage_data | | Retrievably stored, Buried, Building Storage, or Bermed Storage |
| Page 1_Footnotes | | Footnotes applicable to the whole waste stream. |
| <i>Table: epacodes</i> UNIQUE_WS | Key Field, related to Page_1, WIPP_ID | Unique waste stream identifier number. |
| EPA_CODE | | EPA code associated with a specific waste stream. |
| <i>Table: Nuclides</i> Cont_Counter | Key Field related to Container_Data, Counter | Relation to Container data counter, lock the record to a specific container/stream record in Container_Data. |
| Nuclide | | Nuclide designation in form Element Abbreviation, Atomic Weight, and excitation indicator if applicable (Ba137M). |
| Activity | | Scientific notation of activity in Pu239 equivalents in Curies/m3. |

7.3 DATABASE OPERATING INSTRUCTIONS

The WIPP Transuranic (TRU) Waste Baseline Inventory Report (WTWBIR), Revision 1, database is a Microsoft Access 2.0 database. It requires the user to possess a copy of Access 2.0 and be running under the Windows 3.1 operating system. Access, unlike most other databases, provides a single structure that contains objects such as queries, reports, program segments, macros, indexes, relations, and multiple data tables. This means there is only one file to work with, one with the suffix, .MDB. A second file normally accompanies the database file, one with the suffix .LDB and having the same name. It is not normally used except for certain file maintenance operations.

Two databases are provided as part of the compressed file on the distribution disk. The first database is WTWBIR_1, which contains the original data by waste streams from all generator/storage sites. This is the database used to print out the individual stream data in

Appendix A. The second database is called REPORTS. This is the database used to produce the other tables and figures in Volume 1 and Appendix B of the report. The databases are separate because the roll ups of data require some changes to the data to produce rational numbers in the tables and figures. These changes were described in section 7.2.

INSTALLATION: The two databases are compressed into a file on the distribution disk called WTWBIR.EXE. Approximately 6 megabytes of hard disc space should be available to install the database. To install the WTWBIR Rev. 1 database, copy WTWBIR.EXE to a convenient directory on your hard disk, go to the directory containing WTWBIR.EXE, type WTWBIR and press the enter key. The database should be expanded into the directory. The directory should now contain WTWBIR.EXE, WTWBIR1.MDB, WTWBIR1.LDB, WTWBIR.HLP, REPORTS.MDB, and REPORTS.LDB. WTWBIR.HLP contains the data field descriptions. This procedure can be performed either in DOS, a DOS prompt in Windows or from File Manager in Windows. Enter Windows and start Access, and open the WTWBIR_1 or REPORTS database. See the Access User's Manual in case of difficulty.

WTWBIR_1 INSTRUCTIONS: The WTWBIR Rev. 1 database has a built-in program (a macro called "autoexec") which takes control immediately upon opening the database file. It brings up a screen from which the user can view, edit, and locate various waste streams using the normal Access 2.0 tool bar features. In addition, a large printer icon button appear midway down the left side of the screen. This button affords the user the opportunity of printing the waste stream being viewed, waste streams for a specific site, or waste streams for all sites in the database. Scroll bars are provided to scroll between waste streams at the bottom left of the screen. For a given waste stream, the gray section contains waste container data for the various containers used to store this stream, and a scroll bar is provided in the bottom left to scroll among the types of containers for that waste stream. For a given type of container, the typical nuclides for that type of container are listed in a white area inset into the gray and a scroll bar provided.

Mirroring the contraction of the view screen, the WTWBIR data table set consists of the main table, Page_1, which contains site and stream data applicable to all container types used for the stream. Using the waste stream identification code (WIPP_ID) as a key, container-specific data in the Container_Data data table is related to the Page_1 table. Where radionuclides exist in a waste stream, they are listed in the Nuclides table and related to the Container_Data using record counters. For mixed streams, another data table, EPACodes, is related from Page_1's MWIR_ID field to EPACodes' UNIQUE_WS field. This structure affords a considerable savings in database size and is implemented in Access in such a way that they effectively function as one large, compact table.

Descriptions of the data fields can be viewed by opening the desired data table in Access's Table Mode, Design View. If the WTWBIR_1.HLP file was copied into the directory occupied by the WTWBIR database files, limited descriptions of the data fields in the WTWBIR database are available when you place the cursor in a data box and then press the F1 function key.

Reports Instructions:

Open the database REPORTS.MDB. An "autoexec" macro executes when the database opens. This macro presents a form, titled "Figure and Table Viewer", listing the reports available for viewing.

The reports and tables available for review are listed with a number on the left side. There should be eleven entries. If all entries cannot be seen, the scrolling arrows on the right side of the form can be used to scroll the entries. On the bottom of the form is a series of buttons numbered 1 to 11. Each form can be viewed (in report preview mode) by clicking on the command button with the same number as the number to the left of the list of figures and tables.

When the table appears on screen, the size of the window for viewing the table can be adjusted by clicking on the upper right corner up or down arrow in the report window. The report preview window also permits moving between pages of multi-page sets of figures and tables by using the arrows on the lower left corner.

The table or figure can be printed from the report preview window. The tables and figures were originally printed from and formatted for a Laserjet III. When printing the tables and figures, make sure the margins are set so that the entire table or figure is contained on one page, otherwise blank pages may be printed.

The first 8 tables and figures are the same as the tables and figures printed in volume 1 and Appendix B of this report. The figure and table numbers listed are the same as the figure and table numbers in the report. Figures number 9 and 10 show the average material parameters by site for contact handled and remote handled waste. These figures were not used in the report. The last table shows the estimated WIPP packaging material parameters. These numbers are also presented on Tables 5-1 and 5-2 in this viewer and in Volume 1 of the report.

7.4 WTWBID QUALITY CONTROL

To ensure that proper controls and documentation were in place during development and population of the WTWBID, several quality control activities were implemented by the WTWBIR Team. Project quality control objectives were to:

- Define a method for receiving, tracking, reviewing, updating, and documenting data received from the waste generator/storage sites.
- Identify and document the contents of each project baseline.
- Establish and implement a process for releasing and maintaining the WTWBID.
- Create a master library for WTWBID software and documentation.
- Ensure that WTWBID-generated reports and database copies are produced from released database revisions.

The activities performed to meet these objectives are described in the Waste Isolation Pilot Plant Baseline Inventory Report Database Management Procedure (DOE, 1995). The procedure identifies the responsible individuals and required actions for developing, populating, and maintaining the WTWBID, and for managing the data used to produce the WTWBIR and other summary documents.

8. GLOSSARY

40 CFR Part 191, Protection of Environment. EPA: Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and TRU Radioactive Wastes – The EPA's environmental standards for the storage (Subpart A) and disposal (Subpart B) of spent nuclear fuel, and high-level and TRU radioactive wastes. This is the primary post-closure standard that applies to WIPP. It limits annual radiation doses to the public from waste management storage and disposal facilities.

40 CFR Part 268, Protection of Environment. EPA: Land Disposal Restrictions – Restricts the land disposal of all hazardous wastes and specifies strict treatment standards that must be met before these wastes can be land-disposed.

Americium (Am) – A TRU radionuclide having an atomic number of 95, containing 95 electrons and 95 protons. Am-241 (half-life 432.7 y) results from the decay of Pu-241 (half-life 14.4 y). Waste initially rich in Pu-241 will therefore "grow" in Am-241 for several decades as the Pu decays. Am-241 exists in finite amounts in TRU waste at some DOE sites.

Anticipated Inventory – The sum of the stored and projected inventories, as defined in this document.

Buried Waste – TRU waste buried in shallow trenches prior to the 1970 Atomic Energy Commission policy that required TRU waste to be retrievably stored.

Californium (Cf) – A TRU element having an atomic number 98 (the number of protons in the nucleus). An alpha emitter (half-life 2.64 y), Cf-252 also spontaneously fissions, thus making it desirable as a neutron source. Cf-252 is created by neutron bombardment of Cm-244 targets. OR is the only production agency for Cf. As a result, the OR inventory is the only TRU waste inventory showing finite quantities of this element.

Code of Federal Regulations (CFR) – (1) A codification of the general and permanent rules published in the **Federal Register** by the department and agencies of the federal government. The CFR is divided into 50 titles that represent broad areas subject to federal regulation. It is issued quarterly and revised annually. (2) All federal regulations in force are published annually in codified form in the CFR.

Contact-Handled (CH) TRU Waste – Packaged TRU wastes with an external surface dose rate of 200 mrem or less per hour.

Curie – A quantitative measure of radioactivity equal to 3.7×10^{10} disintegrations per second.

Curium (Cm) – A TRU element having an atomic number of 96 (the number of protons in the nucleus). An alpha emitter (half-life 18.1 y), Cm-244 is used for neutron bombardment of targets for the production of Cf-252 at OR. In spite of its half-life being less than 20 years, OR considers and handles Cm-244 as a TRU nuclide. Some TRU waste at both OR and SR contains Cm-244.

Decontamination and Decommissioning (D&D) – The process through which DOE facilities which are no longer operational are cleared of contamination and removed from service. In particular, a reference to D&D waste is a reference to the waste materials that are generated during D&D activities.

Defense Waste – (1) Radioactive waste from any activity performed in whole or in part in support of DOE atomic energy defense activities; excludes waste under purview of the Nuclear Regulatory Commission or generated by the commercial nuclear power industry. (2) Nuclear waste derived mostly from the manufacture of nuclear weapons, weapons-related research programs, the operation of naval reactors, and the decontamination of production facilities.

Department of Energy Site – A DOE-owned or -controlled tract used for DOE operations. Either a tract owned by DOE or a tract leased or otherwise made available to the federal government under terms that afford to DOE rights of access and control substantially equal to those that DOE would possess if it were the holder of the fee (or pertinent interest therein) as agent of and on behalf of the government. One or more DOE operations/program activities are carried out within the boundaries of the described tract.

Design Capacity – The planned waste capacity of the Waste Isolation Pilot Plant.

Disposal – Emplacement of waste in a manner that assures isolation from the biosphere for the foreseeable future with no intent of retrieval and that requires deliberate action to regain access to the waste. For example, disposal of wastes in a mined geologic repository occurs when all of the shafts to the repository area are backfilled and sealed.

Disposal Inventory – The total inventory defined for WIPP emplacement (after scaling) to be used for SPM and PA calculations.

Environmental Restoration (ER) – Those activities associated with the remediation of sites contaminated with hazardous and/or radioactive materials. In particular, a reference to remediation activities conducted under the auspices of the DOE Office of Environmental Restoration and Waste Management, Office of Environmental Restoration, EM-40.

Federal Facility Compliance Act (FFCAct) – Public law 102-386, 1992.

Gas Production – Three gas generation processes are expected to be a factor in the degradation of TRU wastes in the WIPP repository. The generation of gaseous species is expected to occur through chemical (i.e., corrosion), microbial, and radiolytic processes.

Generator/Storage Sites – See Waste Generator/Storage Sites.

Hazardous Waste – Those wastes that are designated hazardous by EPA (or state) regulations through the RCRA.

Integrated Data Base (IDB) – The latest version of the IDB, the *Integrated Data Base for [CY]: U.S. Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics* (DOE, 1994b)

Mixed TRU Waste – TRU waste that contains both radioactive and hazardous components as defined by the Atomic Energy Act and the RCRA as codified in 40 CFR Parts 263, 265, 268, and 270 (EPA, 1980a; 1980b; 1986; and 1983).

Mixed Waste Inventory Report (MWIR) – The latest release of information from the MWIR database that supports requirements under the FFCA of 1992 (Public Law 102-386). The latest version of the MWIR documentation/files is *Distribute of Phase II Mixed Waste Inventory Report Data*, dated May 17, 1994 (DOE, 1994a). This information replaces the Phase I MWIR release (DOE, 1994c).

Newly Generated Wastes – See Projected Inventory.

No-Migration Variance Petition (NMVP) – Section 3004 of RCRA allows EPA to grant a variance from the land disposal restrictions when a determination can be made that, to a reasonable degree of certainty, there will be no migration of hazardous constituents from the disposal unit for as long as the waste remains hazardous. Specific requirements for making this demonstration are found in 40 CFR 268.6, and EPA has published a draft guidance document to assist petitioners in preparing a variance request.

Non-Mixed TRU Waste – Transuranic waste that does not contain hazardous constituents or exhibit hazardous characteristics, as identified in 40 CFR 261, Subparts C and D.

Performance Assessment (PA) – (1) A systematic analysis of the potential risks posed by waste management systems to the public and environment and a comparison of those risks to established performance objectives. (2) An analysis that (a) identifies the processes and events that might affect the disposal system, (b) examines the effects of these processes and events on the performance of the disposal system, and (c) estimates the cumulative releases of radionuclides, considering the associated uncertainties, caused by all significant processes and events. These estimates shall be incorporated into an overall probability distribution of cumulative release to the extent practicable. (3) A term used to denote all activities (qualitative and quantitative) carried out to (a) determine the long-term ability of a site/facility to effectively isolate the waste and ensure the long-term health and safety of the public and (b) provide the basis for demonstrating regulatory compliance.

Plutonium (Pu) – A radionuclide having an atomic number of 94. Pu isotopes exist in some TRU waste at all the major DOE storage facilities. The significant isotopes that may exist in measurable quantities at these facilities are Pu-238 through Pu-242. Each isotope is an alpha emitter; the respective half-lives in years are: 238=87.7, 239=24,000, 240=6,563, 241=14.4, 242=376,000. Because of its high activity, Pu-238 can contribute significantly to the thermal loading on some TRU waste. Pu-241 decays, primarily by beta emission, to Am-241.

Process Knowledge – A qualitative evaluation of the contents of a waste container through the study of existing records of production history of the waste.

Projected Inventory – That part of the inventory that has not been generated but is estimated to be generated at some time in the future by the TRU waste generator/storage sites. The estimated timeframe may vary, but is usually between 20 and 30 years. "Newly generated waste" also is sometimes used as a synonym for the projected inventory.

Radioactive – The emission of radiation from unstable atomic nuclei.

Radionuclide – (1) A species of atom having an unstable nucleus, that is subject to spontaneous decay or disintegration and usually accompanied by the emission of ionizing radiation. (2) Any nuclide that emits radiation. A nuclide is a species of atom characterized by the constitution of its nucleus and hence by the number of protons, the number of neutron, and the energy content.

Remote-Handled (RH) TRU Waste – Packaged TRU wastes with an external surface dose rate exceeding 200 mrem per hour.

Repository – Designated location for disposal of transuranic wastes; the Waste Isolation Pilot Plant.

Resource Conservation and Recovery Act (RCRA) – (1) Establishes a system for controlling hazardous waste from generation to disposal. (2) A Federal law passed in 1976, and amended under the HSWA of 1984, that established a structure to track and regulate hazardous wastes from the time of generation to disposal. The law requires safe and secure procedures to be used in treating, handling, transporting, storing, and disposing of hazardous substances. RCRA is designed to prevent new uncontrolled hazardous waste sites. The law also regulates the disposal of solid waste that may not be considered hazardous. (3) Specifically, Subtitle D of RCRA governs the management of solid waste. (Note: 40 CFR Parts 260-281 are the regulations for complying with RCRA with respect to hazardous waste and hazardous waste treatment, storage, and disposal facilities.)

Retrievable Storage – Designated storage location for transuranic wastes that is designed, operated, and maintained in such a manner that the wastes remain accessible for subsequent retrievable operations.

Scaling – The process for adjusting the anticipated inventory to the design limit (disposal inventory) of the WIPP repository.

Site-Specific Waste Profile – Represents a WMCG at a particular DOE TRU waste generator/storage site. That is, one or more waste stream profiles, at a particular DOE TRU waste site, that have been placed in the same WMCG are summarized in the site-specific waste profile.

Stakeholders – Those persons and/or groups of people and organizations who are affected or perceive they are affected by the DOE waste management program. Stakeholders include DOE management, employees, and contractors (internal); and executive, legislative, and regulatory groups, public representatives, the general public, intervenor groups, special interest groups, contractors, suppliers, and universities (external).

Stored Inventory – That part of the TRU inventory currently in retrievable storage as of the time of the last data call for inventory information. Retrievably stored waste includes waste stored in buildings or in berms with earthen cover since 1970 and does not include any waste that was buried prior to 1970.

System Prioritization Methodology (SPM) – The SPM is a process formulated to identify a set of activities (required experiments, modeling, engineering design, and waste acceptance criteria) that will lead to regulatory compliance. The process is formulated such that it also: (1) addresses stakeholder and regulator concerns early and throughout the regulatory process and (2) leads to a fully defensible performance assessment to be used in demonstrating regulatory compliance. Ultimate products and associated customers are:

- (1) A decision matrix containing the most likely sets of activities that will lead to compliance as a function of time and budget to be delivered to the WIPP program manager,
- (2) A performance assessment built on assumptions and data that are defensible in the eyes of the stakeholders and the regulators to be delivered to the regulatory compliance branch of Carlsbad Area Office/WIPP through the Westinghouse Waste Isolation Division and ultimately to the EPA, and
- (3) A set of regulatory issues and their current status that result from the SPM process and are to be included in compliance packages by the Westinghouse Waste Isolation Division.

Thorium (Th) – A radionuclide having an atomic number of 90. Although not TRU, Th-232 is an alpha emitter (half-life 14 billion years) and exists in finite amounts in some TRU waste at HA, IN, and OR. [Note: Thorium is naturally occurring and contributes to background radiation at some sites (e.g., IN)]

Transuranic – Pertaining to elements that have atomic numbers greater than 92, including neptunium, plutonium, americium, and curium; all are radioactive, are products of artificial nuclear changes, and are members of the actinide group.

Transuranic (TRU) Waste – (1) Waste containing alpha-emitting radionuclides with an atomic number greater than 92 and half-lives greater than 20 years, at concentrations of TRU isotopes greater than 100 nanocuries per gram of waste. **This core definition appears in modified form in various relevant documents as follows:** (a) For purposes of management, DOE Order 5820.2A: (i) considers TRU waste, as defined above, "without regard to source or form" (*The proposed revision to the Order [DOE Order 5820.2A Major Issues for Revision, May 6, 1992]* contemplates removing this clause); (ii) allows head of field elements to determine that wastes containing other alpha-emitting radionuclides must be managed as TRU waste; and (iii) adds "at time of assay," implying both that the classification of a waste as TRU waste is to be made based on an assay, and that such classification can be superseded only by another assay. (b) For purposes of setting standards for management and disposal, 40 CFR 191.02(i) adds "except for: (i) high-level wastes; (ii) wastes that the DOE has determined, with the concurrence of the EPA Administrator, do not need the degree of isolation required by this part; or (iii) wastes that the Nuclear Regulatory Commission has approved for disposal on a case-by-case basis in accordance with 10 CFR 61. (2) Waste materials contaminated with U-233 (and its daughter products), with certain isotopes of plutonium, or with other nuclides with atomic numbers greater than 92. In order to be classified as TRU waste, the long-lived alpha activity from subject isotopes must exceed 100 nanocuries per gram of waste material and from the use of plutonium in the fabrication of nuclear weapons. (3) Wastes that are contaminated with radioactive elements heavier than uranium, thus the name trans-(or beyond) uranic.

TRUCON – See TRUPACT-II Content Code.

TRUPACT-II Content Codes (TRUCON) – The document containing a description of the waste stream, waste form, and package configuration for each waste content code authorized for shipment in TRUPACT-II containers.

Unknown Waste Stream – Those waste streams for which there is insufficient process knowledge to assign a specific WMC.

Uranium (U) – A naturally radioactive element with the atomic number of 92 (number of protons in the nucleus) and an atomic weight of approximately 238. The two principal naturally occurring isotopes are the fissionable U-235 (0.7 percent of natural uranium) and the fertile U-238 (99.3 percent of natural uranium). (Note: An alpha emitter [half-life 159,000 y], U-233 also spontaneously fissions; it is present in finite quantities in some TRU waste inventories at INEL and ORNL.)

Waste Acceptance Criteria (WAC) – The criteria used to determine if waste packages are acceptable.

Waste Form – The physical form of the waste such as sludges, combustibles, metals, etc.

Waste Generator/Storage Sites – The 10 largest DOE facilities and several smaller sites throughout the U.S. that produce and store TRU waste.

Waste Isolation Pilot Plant (WIPP) – (1) The project authorized under Section 213 of the DOE National Security and Military Applications of Nuclear Energy Authorization Act of 1980 (Public Law 96-164; 93 Stat. 1259, 1265) to demonstrate the safe, and environmentally sound, disposal of radioactive waste materials generated by atomic energy defense activities. (2) A research and development facility, located near Carlsbad, New Mexico, to be used for demonstrating a practical, long-term solution to a complex problem: the safe disposal in deep geologic repositories of TRU waste resulting from DOE activities. (3) The WIPP has two primary objectives. First, the WIPP is investigating the behavior of salt rock and interactions between the salt rock and radioactive wastes in a variety of forms. Second, the WIPP seeks to demonstrate the safe and efficient handling, transportation, and disposal of TRU waste in an actual facility.

Waste Material Parameter – A waste material that occurs in TRU waste that is an input parameter into one or more current SPM or PA models, an SPM or PA model under development, a potential future model, or is required to adequately describe the waste form.

Waste Matrix Code (WMC) – A DOE-developed coding system for organizing waste streams by their physical and chemical properties. A WMC is assigned to each waste stream by the DOE TRU waste generator/storage site. The WMC for each waste stream can be found in the Mixed Waste Inventory Report (DOE, 1994a). This coding system allows waste streams within the DOE TRU waste system that have similar physical and chemical waste form properties to be categorized together. WMCs also have been called "waste treatability codes" in other DOE documents. Appendix C contains the DOE guidance document to help categorize individual waste streams. An example of a WMC for "heterogeneous waste" would be 5400.

Waste Matrix Code Group (WMCg) – Consists of a series of WMCs that for SPM or PA purposes has similar physical and chemical properties.

Waste Stream – Individually, those stored or projected wastes that are defined by a unique identifier in the MWIR.

Waste Stream Name – A site-specific, unique descriptive identifier for a TRU waste stream.

Waste Stream Profile – A description of a CH-TRU or RH-TRU waste stream destined for shipment to and disposal in WIPP, if authorized under permits and certifications by appropriate regulatory agencies for disposal in the WIPP repository. The waste stream profile is presented in tabular format and is intended to provide a summary of the important information about a particular waste stream.

Waste Stream Site ID – A site-specific alphanumeric identification code which provides a unique identifier for an individual TRU waste stream.

WIPP Waste Profile – Represents a summary of TRU waste at all DOE TRU waste generator/storage sites that have an identical WMCG.

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**Waste Isolation Pilot Plant Transuranic
Waste Baseline Inventory Report**



February 1995

**Prepared by WIPP Technical Assistance Contractor
for U.S. Department of Energy
under Contract No. DE-AC04-93AL-96904**

Volume 2

APPENDIX A

ARGONNE NATIONAL LABORATORY-EAST (AE) WASTE STREAM PROFILES

The following modifications were made by the WTWBIR team in developing the AE waste stream profiles:

- AE Final Waste Form Groups were modified to be consistent with the nomenclature used in the WTWBID. These changes included word and spelling changes. The assigned Final Waste Form Groups are consistent with the information provided by AE.
- The volumes for the year 1993 were changed from an annual rate of generation (m^3/year) to a cumulative value (m^3).
- A data entry error was made on the original form for the number of containers stored at AE. This error was corrected.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AE

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE AE

| | | | |
|---|----------|--------------------------------|--|
| WASTE STREAM | | STREAM NAME | |
| MWIR ID | WIPP ID | AE-T001 | |
| | Local ID | Not reported | |
| MATRIX CODE | | DESCRIPTION | |
| SITE FINAL FORM IDC | | Non-mixed TRU derived from IDB | |
| Waste Matrix Code Group | | Solidified Inorganics | |
| Site Matrix Description | | | |
| NO MIGRATION VARIANCE PETITION ASSIGNMENT | | TRUCON CODE | |
| FINAL WASTE FORM DESCRIPTORS: | | | |

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☐ ☒ ☐ ☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐ ☒ ☐ ☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒ ☐ ☐ ☐ ☐ ☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐ ☐ ☐ ☒ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AE

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE AE

AE-T001

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 87
Number Projected: 3

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 101.0 | 101.0 | 101.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 216.3 | 165.3 | 259.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 17.4 | 17.4 m3 |
| End of 1993: | 18.0 | 18.0 m3 |
| 1994: | 0.6 | 0.6 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.13E+00 Curies/m3 |
| Am243 | 4.00E-02 Curies/m3 |
| Np237 | 6.43E-03 Curies/m3 |
| Pu238 | 4.07E-06 Curies/m3 |
| Pu239 | 1.17E+00 Curies/m3 |
| Pu241 | 6.10E-01 Curies/m3 |
| U233 | 1.20E-09 Curies/m3 |
| U235 | 2.50E-05 Curies/m3 |
| U238 | 2.24E-05 Curies/m3 |

Comments

Hanford, WA site data includes ANL-E waste forecast data for years 1995 through 2022. ANL-E has included the requested data in its forecast to Hanford and reporting this data separately would result in double counting of waste volumes. ANL-E plans to ship this waste to Hanford provided projects are funded, Storage/Disposal Approval Requests are approved, estimated waste volumes are actually generated, regulations allow shipment, etc., during that time period.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AE

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE AE

| | | | |
|----------------------------|--------------|---------------------------------|--|
| <u>WASTE STREAM</u> | | <u>STREAM NAME</u> | |
| MWIR ID | AE-T003 | | |
| WIPP ID | Not reported | | |
| Local ID | | | |
| <u>MATRIX CODE</u> | | <u>DESCRIPTION</u> | |
| <u>SITE FINAL FORM IDC</u> | | Non-mixed TRU derived from IDB. | |
| Waste Matrix Code Group | | Uncategorized Metal | |
| Site Matrix Description | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | |
|-----------------------|-------------------------------------|-------------------|--------------------------|
| Defense TRU Waste | <input type="checkbox"/> | Mixed TRU | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input checked="" type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |

| | | |
|-------------------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AE

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE AE

AE-T003

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 24
Number Projected: 3

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 4.4 | 4.4 m3 |
| End of 1993: | 5.0 | 5.0 m3 |
| 1994: | 0.6 | 0.6 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.13E+00 Curies/m3 |
| Am243 | 4.00E-02 Curies/m3 |
| Np237 | 6.43E-03 Curies/m3 |
| Pu238 | 4.07E-06 Curies/m3 |
| Pu239 | 1.17E+00 Curies/m3 |
| Pu241 | 6.10E-01 Curies/m3 |
| U233 | 1.20E-09 Curies/m3 |
| U235 | 2.50E-05 Curies/m3 |
| U238 | 2.24E-05 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Hanford, WA site data includes ANL-E waste forecast data for years 1995 through 2022. ANL-E has included the requested data in its forecast to Hanford and reporting this data separately would result in double counting of waste volumes. ANL-E plans to ship this waste to Hanford provided projects are funded, Storage/Disposal Approval Requests are approved, estimated waste volumes are actually generated, regulations allow shipment, etc., during that time period.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AE

WASTE TYPE ☒ MTRU HANDLING ☒ CH GENERATOR SITE ☒ AE

| | | | |
|---|--------------|------------------------|--|
| WASTE STREAM | | STREAM NAME | |
| MWIR ID | AE-W038 | Aqueous Lab Packs | |
| WIPP ID | AE-W038 | | |
| Local ID | Not reported | DESCRIPTION | |
| | 6120 | MTRU Acidic Wastewater | |
| MATRIX CODE | | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group Site Matrix Description Solidified Inorganics This waste stream comprises three waste sources: 1) Lab packs of acidic wastes from research and development projects site-wide, 2) Acidic wastewater from Chemical Technology (CMT) Division - Building 205, and 3) Acidic wastewater from the analysis of plutonium at the New Brunswick Laboratory (NBL). | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input checked="" type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AE

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE AE

AE-W038

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208/m3

Liner Type:
Liner Material:

Number Stored: 23
Number Projected: 3

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 101.0 | 101.0 | 101.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 216.3 | 168.3 | 259.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 4.1 | 4.1 m3 |
| End of 1993: | 4.7 | 4.7 m3 |
| 1994: | 0.6 | 0.6 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D002B
D004A
D006A

Comments

Hanford, WA site data includes ANL-E waste forecast data for years 1995 through 2022. ANL-E has included the requested data in its forecast to Hanford and reporting this data separately would result in double counting of waste volumes. ANL-E plans to ship this waste to Hanford provided projects are funded. Storage/Disposal Approval Requests are approved, estimated waste volumes are actually generated, regulations allow shipment, etc., during that time period.

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.13E+00 Curies/m3 |
| Am243 | 4.00E-02 Curies/m3 |
| Np237 | 6.43E-03 Curies/m3 |
| Pu238 | 4.07E-06 Curies/m3 |
| Pu239 | 1.17E+00 Curies/m3 |
| Pu241 | 6.10E-01 Curies/m3 |
| U233 | 1.20E-09 Curies/m3 |
| U235 | 2.50E-05 Curies/m3 |
| U238 | 2.24E-05 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AE

WASTE TYPE ☒ MTRU ☐ CH ☐ GENERATOR SITE ☐ AE

| | | |
|--|--------------|---------------------|
| <u>WASTE STREAM</u> | | <u>STREAM NAME</u> |
| <u>WIPW ID</u> | AE-W039 | Organic Resins |
| <u>WIPP ID</u> | AE-W039 | |
| <u>Local ID</u> | Not reported | |
| <u>MATRIX CODE</u> | 3212 | |
| <u>SITE FINAL FORM IDC</u> | | |
| <u>Waste Matrix Code Group</u> | | <u>DESCRIPTION</u> |
| Solidified Organics | | MTRU Organic Resins |
| <u>Site Matrix Description</u> | | |
| Resins used in the radiochemical analysis. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input checked="" type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|---------------------------|-------------------------------------|
| Research and Devel. Waste | <input checked="" type="checkbox"/> |
| Operations Waste | <input type="checkbox"/> |
| Residues | <input type="checkbox"/> |
| Decon and Decommissioning | <input type="checkbox"/> |
| Environmental Restoration | <input type="checkbox"/> |
| From Treatment of Waste | <input type="checkbox"/> |
| Maintenance | <input type="checkbox"/> |

| | |
|----------|-------------------------------------|
| TSCA | <input type="checkbox"/> |
| Asbestos | <input type="checkbox"/> |
| PCBs | <input type="checkbox"/> |
| Other | <input checked="" type="checkbox"/> |
| N/A | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

AE-W039 - 1

AE - 7

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AE

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE AE

AE-W039

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: Steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 0

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 351.0 | 28.8 | 548.1 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 346.2 | 101.0 | 726.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------|
| End of 1992: | 0.025 | 0.025 m3 |
| End of 1993: | 0.025 | 0.025 m3 |
| 1994: | 0.000 | 0.000 m3/yr |
| 1995: | 0.000 | 0.000 m3/yr |
| 1996: | 0.000 | 0.000 m3/yr |
| 1997: | 0.000 | 0.000 m3/yr |
| 1998-2002: | 0.000 | 0.000 m3/yr |
| 2003-2022: | 0.000 | 0.000 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006A

Comments

Hanford, WA site data includes ANL-E waste forecast data for years 1995 through 2022. ANL-E has included the requested data in its forecast to Hanford and reporting this data separately would result in double counting of waste volumes. ANL-E plans to ship this waste to Hanford provided projects are funded, Storage/Disposal Approval Requests are approved, estimated waste volumes are actually generated, regulations allow shipment, etc., during that time period.

AE-W039 - 2

AE - 8

2/28/95

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.13E+00 Curies/m3 |
| Am243 | 4.00E-02 Curies/m3 |
| Np237 | 6.43E-03 Curies/m3 |
| Pu238 | 4.07E-06 Curies/m3 |
| Pu239 | 1.17E+00 Curies/m3 |
| Pu241 | 6.10E-01 Curies/m3 |
| U233 | 1.20E-09 Curies/m3 |
| U235 | 2.50E-05 Curies/m3 |
| U238 | 2.24E-05 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AE

WASTE TYPE MTRU HANDLING CH GENERATOR SITE AE

| | | |
|-------------------------|--|---|
| WASTE STREAM | MMWR ID AE-W040 | STREAM NAME Wastewater Treatment Sludges |
| | WIPP ID AE-W040 | |
| | Local ID Not reported | |
| MATRIX CODE | 3121 | DESCRIPTION MTRU Evaporator, Concentrator Sludges |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | Solidified Inorganics | |
| Site Matrix Description | MTRU sludge from evaporator used to concentrate aqueous liquids. Sludges may contain cadmium, chromium and/or mercury. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|---|--|--|--|
| | | | |
| X | | | |
| | | | |
| | | | |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|---|--|--|--|
| X | | | |
| | | | |
| | | | |
| | | | |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|---|--|--|--|--|--|--|
| X | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--|--|--|---|--|
| | | | | |
| | | | X | |
| | | | | |
| | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AE

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE AE

| | | | | |
|---------|---|---|--------------------------------|---|
| AE-W040 | CONTAINER: Drum Type/Size: 55-gallon | Container Mat: Steel Int. Vol/Ctnr: 0.208 m3 | Liner Type: Liner Material: | Number Stored: 2 Number Projected: 0 |
|---------|---|---|--------------------------------|---|

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 394.2 | 173.1 | 528.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 399.0 | 173.1 | 528.8 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.4 m3 |
| End of 1993: | 0.4 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006A
D007A
D009A

Comments

Hanford, WA site data includes ANL-E waste forecast data for years 1995 through 2022. ANL-E has included the requested data in its forecast to Hanford and reporting this data separately would result in double counting of waste volumes. ANL-E plans to ship this waste to Hanford provided projects are funded, Storage/Disposal Approval Requests are approved, estimated waste volumes are actually generated, regulations allow shipment, etc., during that time period.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AE

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE AE

| | | | |
|--------------------------------|--------------|---|---------------------|
| WASTE STREAM | | STREAM NAME | Non-Activated Lead |
| WIPR ID | AE-W041 | | |
| WIPP ID | AE-W041 | | |
| Local ID | Not reported | | |
| MATRIX CODE | 7210 | | |
| SITE FINAL FORM IDC | | DESCRIPTION | MTRU Elemental Lead |
| Waste Matrix Code Group | | Lead/Cadmium Metal Waste | |
| Site Matrix Description | | Lead bricks from Building 212 glove boxes. The lead bricks contain plutonium. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

TSCA
Asbestos
PCBs
Other
N/A
Unknown

X

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AE

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE AE

| | | | | |
|---------|----------------------|-------------------------------------|-----------------|---------------------|
| AE-W041 | CONTAINER: Drum | Container Mat: Steel | Liner Type: | Number Stored: 3 |
| | Type/Size: 55-gallon | Int. Vol/Ctnr: 0.208 m ³ | Liner Material: | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 0.0 | 0.0 m ³ |
| End of 1993: | 0.7 | 0.7 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D008C

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 2.13E+00 Curies/m ³ |
| Am243 | 4.00E-02 Curies/m ³ |
| Np237 | 6.43E-03 Curies/m ³ |
| Pu238 | 4.07E-06 Curies/m ³ |
| Pu239 | 1.17E+00 Curies/m ³ |
| Pu241 | 6.10E-01 Curies/m ³ |
| U233 | 1.20E-09 Curies/m ³ |
| U235 | 2.50E-05 Curies/m ³ |
| U238 | 2.24E-05 Curies/m ³ |

Comments

Hanford, WA site data includes ANL-E waste forecast data for years 1995 through 2022. ANL-E has included the requested data in its forecast to Hanford and reporting this data separately would result in double counting of waste volumes. ANL-E plans to ship this waste to Hanford provided projects are funded, Storage/Disposal Approval Requests are approved, estimated waste volumes are actually generated, regulations allow shipment, etc., during that time period.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AE

WASTE TYPE ☐ MTRU ☐ CH ☐ GENERATOR SITE ☐ AE

| | | |
|-------------------------|---------------------------------|-------------|
| WASTE STREAM | WASTE NAME | DESCRIPTION |
| MWIR ID AE-W042 | Cadmium containing metal debris | |
| WIPP ID AE-W042 | | |
| Local ID | MTRU Cadmium Waste | |
| MATRIX CODE | | |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | | |
| Site Matrix Description | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|--------------------------|---------------------------|-------------------------------------|------|--------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input checked="" type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AE

WASTE TYPE MTRU HANDLING CH GENERATOR SITE AE

| | | | | |
|----------------------|------------------------------------|----------------------|---------------------|------------------|
| AE-W042 | CONTAINER: Drum | Container Mat: Steel | Liner Type: | Number Stored: 2 |
| Type/Size: 55-gallon | Int. Vol/Ctnr: 0.222m ³ | Liner Material: | Number Projected: 0 | |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 256.1 | 256.1 | 256.1 |
| Aluminum-Based Metals/Alloys | 27.8 | 27.8 | 27.8 |
| Other Metals | 24.7 | 24.7 | 24.7 |
| Other Inorganic Materials | 29.3 | 2.3 | 29.3 |
| Cellulosics | 7.4 | 0.0 | 45.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 15.1 | 0.0 | 67.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 0.4 | 0.4 m ³ |
| End of 1993: | 0.4 | 0.4 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D006A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 2.13E+00 Curies/m ³ |
| Am243 | 4.00E-02 Curies/m ³ |
| Np237 | 6.43E-03 Curies/m ³ |
| Pu238 | 4.07E-06 Curies/m ³ |
| Pu239 | 1.17E+00 Curies/m ³ |
| Pu241 | 6.10E-01 Curies/m ³ |
| U233 | 1.20E-09 Curies/m ³ |
| U235 | 2.50E-05 Curies/m ³ |
| U238 | 2.24E-05 Curies/m ³ |

Comments

Hanford, WA site data includes ANL-E waste forecast data for years 1995 through 2022. ANL-E has included the requested data in its forecast to Hanford and reporting this data separately would result in double counting of waste volumes. ANL-E plans to ship this waste to Hanford provided projects are funded, Storage/Disposal Approval Requests are approved, estimated waste volumes are actually generated, regulations allow shipment, etc., during that time period.

APPENDIX A WASTE STREAM PROFILES

AMES LABORATORY (AL) WASTE STREAM PROFILES

The following modifications were made by the WTWBIR team in developing the AL waste stream profiles:

- AL Final Waste Form Groups were modified to be consistent with the nomenclature used in the WTWBID. These changes included word and spelling changes. The assigned Final Waste Form Groups are consistent with the information provided by AL.
- A data entry error was made on the original form for the number of containers stored at AL. This error was corrected.
- The projected volumes reported by AL were not distributed to individual years. Based on the footnotes provided by AL, these volumes were distributed by the WTWBIR team for both current and final form volumes for the years 2003-2022.
- The volume of the final waste form assumes a 2.5 volume expansion factor for solidification.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AL

WASTE TYPE MTRU HANDLING CH GENERATOR SITE AL

| | | | | |
|---|----------|----------|-------------|---------------------------------------|
| WASTE STREAM | MWIR ID | AL-W005 | STREAM NAME | Aqueous Liquids/Slurries |
| | WIPP ID | AL-W005 | | |
| | Local ID | Glovebox | DESCRIPTION | Mixed Transuranic/Uranium in Glovebox |
| MATRIX CODE | | 1000 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group Site Matrix Description Solidified Inorganics This waste stream will be generated during the remediation of a glovebox that has been used for plutonium and other transuranic research. The glovebox continues to be used for transuranic research. Some of the contents of the glovebox will become MTRU waste. It has not yet been determined what volume will be MTRU and what will be TRU. Isotopes that are known to be in the glovebox are: Pu-239, Pu-240, Pu-242, Np-237, Pa-233, U-235, U-236, and U-238. Concentrations of the TRU components range from 1 pph to 2300 ppm in various concentrations of nitric acid. Uranium concentrations range from 0.1 pph to 407,770 ppm. | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|--------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input checked="" type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input checked="" type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AL

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE AL

AL-W005

CONTAINER: Drum

Type/Size:

Container Mat: Steel

Int. Vol/Ctnr: 0.208m3

Liner Type:

Liner Material:

Number Stored: 0

Number Projected: 1

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 394.2 | 173.1 | 528.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 399.0 | 173.1 | 528.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Np237 | 4.00E-03 Curies/m3 |
| Pu239 | 7.70E-02 Curies/m3 |
| Pu242 | 5.30E-03 Curies/m3 |
| U235 | 1.70E-05 Curies/m3 |
| U238 | 5.80E-10 Curies/m3 |

TYPICAL ISOTOPIC COMPOSITION

| Projected | Final Form |
|--------------------|-------------|
| End of 1992: 0.000 | 0.000 m3 |
| End of 1993: 0.000 | 0.000 m3 |
| 1994: 0.000 | 0.000 m3/yr |
| 1995: 0.000 | 0.000 m3/yr |
| 1996: 0.000 | 0.000 m3/yr |
| 1997: 0.000 | 0.000 m3/yr |
| 1998-2002: 0.000 | 0.000 m3/yr |
| 2003-2022: 0.005 | 0.005 m3/yr |

TYPICAL EPA CODES APPLICABLE

D002B
D004A
D005A
D006A
D007A
D008A
D010A
D011A

Comments

- Assumptions:
- Transuranic waste will be generated through research and development. The isotopes are currently housed in a glovebox with the appropriate HEPA filters.
 - TRU waste will only be generated when the research project is complete or when the filters are replaced. Therefore, there will be no TRU waste generation until CY2004 at the earliest.
 - Ames Laboratory plans to utilize the storage services of Hanford for TRU waste pending the opening of WIPP.

ARGONNE NATIONAL LABORATORY-WEST (AW) WASTE STREAM PROFILES

The following assumptions were made by the WTWBIR team in developing the AW waste stream profiles.

- An AW RH Canister (without any shielding) has been assumed for the 0.112 m³ RH container.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AW

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ AW

| | | | |
|----------------------------|-------------|--|--|
| <u>WASTE STREAM</u> | | <u>STREAM NAME</u> ALHC Upgrade Decon Debris | |
| <u>MWIR ID</u> | AW-M001 | | |
| <u>WIPP ID</u> | CH-ANL-505T | | |
| <u>Local ID</u> | 5400 | | |
| <u>MATRIX CODE</u> | | <u>DESCRIPTION</u> | |
| <u>SITE FINAL FORM IDC</u> | | | |
| Waste Matrix Code Group | | Lead/Cadmium Metal Waste | |
| Site Matrix Description | | Waste packaged for WIPP containing: radioactive cadmium debris from CH-ANL-242T, solidified to meet WIPP-WAC requirement for particulate immobilization, and bags of lead-lined gloves were placed in the solidified Co2 drums to fill the void space. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ TRUCON CODE ☐

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|--------------------------|---------------------------|--------------------------|------|--------------------------|----------|--------------------------|
| Defense TRU Waste | <input type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input checked="" type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AW

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE AW

AW-M001

CONTAINER: SWB

Type/Size:

Container Mat: Steel

Int. Vol/Ctnr: 1.9 m3

Liner Type:

Liner Material:

Number Stored: 0

Number Projected: 1

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 145.0 | 145.0 | 145.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 264.0 | 264.0 | 264.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 13.0 | 13.0 | 13.0 |
| Solidified, Inorganic matrix | 237.0 | 237.0 | 237.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | 154.0 | 154.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

Comments

Leaded gloves are 22% of volume
Mops are 40% of volume
Plastics are 2% of volume
Solidified process residues are 36% of volume

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 1.2 | 1.9 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006
D007
D008

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AW

WASTE TYPE MTRU HANDLING CH GENERATOR SITE AW

| | | |
|--------------------------------|---|---|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | AW-M002 | Lead/Cadmium Metal Waste |
| MATRIX CODE | Local ID | DESCRIPTION |
| | CH-ANL-142T | This waste is typically lead lined gloves replaced at the Experimental Fuel Laboratory Glove Box. |
| SITE FINAL FORM IDC | 5311 | |
| Waste Matrix Code Group | Lead/Cadmium Metal Waste | |
| Site Matrix Description | This waste is typically lead lined gloves replaced at the Experimental Fuel Laboratory Glove Box. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRU CON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|--------------------------|---------------------------|-------------------------------------|------|--------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input checked="" type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input checked="" type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **AW**

WASTE TYPE **MTRU** HANDLING **CH** GENERATOR SITE **AW**

AW-M002 CONTAINER: **Drum** Type/Size: **55-gallon** Container Mat: **metal/steel** Int. Vol/Ctnr: **0.21 m3** Liner Type: Liner Material: Number Stored: **0** Number Projected: **3**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | | | |
| Aluminum-Based Metals/Alloys | | | |
| Other Metals | | | |
| Other Inorganic Materials | | | |
| Cellulosics | | | |
| Rubber | | | |
| Plastics | | | |
| Solidified, Inorganic matrix | | | |
| Solidified, Organic matrix | | | |
| Soils | | | |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.00 | 0.00 m3 |
| End of 1993: | 0.02 | 0.02 m3 |
| 1994: | 0.02 | 0.02 m3/yr |
| 1995: | 0.02 | 0.02 m3/yr |
| 1996: | 0.02 | 0.02 m3/yr |
| 1997: | 0.02 | 0.02 m3/yr |
| 1998-2002: | 0.02 | 0.02 m3/yr |
| 2003-2022: | 0.02 | 0.02 m3/yr |

TYPICAL EPA CODES APPLICABLE

D008

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AW

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE AW

| | | | | |
|-------------------------|--|-------------|-------------|---|
| WASTE STREAM | MWIR ID | AW-M003 | STREAM NAME | TRU waste used pre-filters |
| MATRIX CODE | WIPP ID | CH-ANL-503T | DESCRIPTION | Spent Metal and Wood Prefilters. WTWBIR changes based on ANL-W volume estimate 1994 vol changed to 0 and added .91 to 1993. |
| SITE FINAL FORM IDC | Local ID | 5410 | | |
| Waste Matrix Code Group | Filter | | | |
| Site Matrix Description | The waste consists of metal or wood framed pre-filters. Prefilters are 2' x 2' x .5'. HEPA filters are 2' x 2' x 1'. Both types of filters have screen mesh covering high efficiency filtering media. The concentrations of radionuclides and RCRA toxic metals vary in each filter. These filters were generated from the decontamination of the analytical hot cell in 1993. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | |
|-----------------------|-------------------|---------------------------|------|----------|
| Defense TRU Waste | Mixed TRU | Research and Devel. Waste | TSCA | Asbestos |
| Non-Defense TRU Waste | Non-Mixed TRU | Operations Waste | | PCBs |
| Commercial TRU Waste | Suspect Mixed TRU | Residues | X | Other |
| Unknown | Unknown | Decon and Decommissioning | | N/A |
| | | Environmental Restoration | | Unknown |
| | | From Treatment of Waste | | |
| | | Maintenance | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AW

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE AW

AW-M003

CONTAINER: RH Canister
Type/Size: RH Canister

Container Mat: Steel/Lead
Int. Vol/Cntr: 0.89 m3

Liner Type:
Liner Material:

Number Stored: 1
Number Projected: 1

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 232.5 | 214.9 | 241.2 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 8.8 | 8.8 | 8.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.9 | 0.9 m3 |
| 1994: | 0.1 | 0.1 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.1 | 0.1 m3/yr |

TYPICAL EPA CODES APPLICABLE

Footnotes

Includes 465 kg/m3 of lead shielding.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AW

WASTE TYPE ☐ TRU ☒ HANDLING ☐ CH ☒ GENERATOR SITE ☐ AW

| | | | |
|-------------------------|---------|--|--|
| <u>WASTE STREAM</u> | | <u>STREAM NAME</u> ANL-W CH TRU Waste | |
| MWIR ID | AW-T001 | | |
| WIPP ID | | | |
| Local ID | | | |
| <u>MATRIX CODE</u> | | <u>DESCRIPTION</u> | |
| SITE FINAL FORM IDC | | CH-TRU waste generated by FCF pyroprocessing demonstration (not yet generated). Estimated 2 drums/year. | |
| Waste Matrix Code Group | | Heterogeneous | |
| Site Matrix Description | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ TRUCON CODE ☐

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|--------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input checked="" type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AW

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE AW

AW-T001

CONTAINER: Drum
Type/Size: 55 gallon

Container Matl: Steel
Int. Vol/Cntr: 0.208 m3

Liner Type: 80 mil Liner HD
Liner Material: plastic

Number Stored: 0
Number Projected: 16

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.4 | 0.4 m3/yr |
| 1996: | 0.4 | 0.4 m3/yr |
| 1997: | 0.4 | 0.4 m3/yr |
| 1998-2002: | 0.4 | 0.4 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Composition is not yet known on future waste.

AW-T001 - 2

AW - 8

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AW

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE AW

| | | | |
|-------------------------|----------|-------------|---|
| WASTE STREAM | MWIR ID | STREAM NAME | Projected RH canisters. |
| | WIPP ID | | |
| | Local ID | | |
| MATRIX CODE | | DESCRIPTION | RH-TRU waste generated from FCF pyroprocessing. |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | Unknown | | |
| Site Matrix Description | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

TSCA
Asbestos
PCBs
Other
N/A
Unknown

X

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AW

WASTE TYPE TRU HANDLING RH GENERATOR SITE AW

AW-T002 CONTAINER: ANL-W RH Canister
Type/Size: ANL-W RH Canister

Container Mat: Steel/Lead
Int. Vol/Ctnr: 0.112m3

Liner Type:
Liner Material:

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.3 | 0.3 m3/yr |
| 1997: | 0.9 | 0.9 m3/yr |
| 1998-2002: | 0.9 | 0.9 m3/yr |
| 2003-2022: | 0.9 | 0.9 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

No constituent data provided.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **AW** WASTE TYPE **TRU** HANDLING **RH** GENERATOR SITE **AW**

| | | |
|---|--------------------|---------------------------------|
| WASTE STREAM | WMIR ID | STREAM NAME |
| | AW-W016 | Electrorefiner Stripped Cadmium |
| WIPP ID | AW-W016 | |
| Local ID | CH-ANL-245T | |
| MATRIX CODE | 3190 | Electrorefiner Stripped Cadmium |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group Site Matrix Description Lead/Cadmium Metal Waste This waste stream consists of cadmium dispersed in a copper alloy matrix. This waste stream will be generated from the Electrorefiner station in the ANL-Fuel Cycle Facility. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|---|---|--|---|---|---|---|---|
| Defense TRU Waste Non-Defense TRU Waste Commercial TRU Waste Unknown | <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Mixed TRU Non-Mixed TRU Suspect Mixed TRU Unknown | <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Research and Devel. Waste Operations Waste Residues Decon and Decommissioning Environmental Restoration From Treatment of Waste Maintenance | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | TSCA Asbestos PCBs Other N/A Unknown | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> |
|---|---|--|---|---|---|---|---|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AW

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE AW

AW-W016

CONTAINER: ANL-W RH Canister
Type/Size: ANL-W RH Canister

Container Mat: Steel
Int. Vol/Ctnr: 0.112 m³

Liner Type:
Liner Material:

Number Stored: 0
Number Projected: 2

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 256.1 | 256.1 | 256.1 |
| Aluminum-Based Metals/Alloys | 27.8 | 27.8 | 27.8 |
| Other Metals | 24.7 | 24.7 | 24.7 |
| Other Inorganic Materials | 29.3 | 2.3 | 29.3 |
| Cellulosics | 7.4 | 0.0 | 45.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 15.1 | 0.0 | 67.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------------------|
| End of 1992: | 0.00 | 0.00 m ³ |
| End of 1993: | 0.00 | 0.00 m ³ |
| 1994: | 0.00 | 0.00 m ³ /yr |
| 1996: | 0.02 | 0.02 m ³ /yr |
| 1998: | 0.02 | 0.02 m ³ /yr |
| 1997: | 0.02 | 0.02 m ³ /yr |
| 1998-2002: | 0.04 | 0.04 m ³ /yr |
| 2003-2022: | 0.00 | 0.00 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D006A

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AW

WASTE TYPE MTRU HANDLING RH GENERATOR SITE AW

| | | | | |
|--|----------|-------------|-------------|--------------|
| WASTE STREAM | MWIR ID | AW-W018 | STREAM NAME | Sodium - TRU |
| | WIPP ID | AW-W018 | | |
| | Local ID | CH-ANL-180T | DESCRIPTION | Sodium-TRU |
| MATRIX CODE | | 6200 | | |
| SITE FINAL FORM IDC | | | | |
| <p>Waste Matrix Code Group</p> <p>Site Matrix Description</p> <p>Uncategorized Metal</p> <p>Sodium is used as a primary and secondary coolant for the EBR-II Reactor. Waste sodium metal is a hazardous constituent of the TRU waste stored at the ANL-W Radioactive Scrap and Waste Facility (RSWF). Waste at RSWF is remote-handled. This waste is generated during maintenance and operational activities. The sodium typically coats waste metal equipment, experiments and components removed during reactor operations and maintenance activities.</p> | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|--------------------------|---------------------------|-------------------------------------|------|--------------------------|----------|--------------------------|
| Defense TRU Waste | <input type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input checked="" type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

SITE NAME AWW

SITE NAME AWW

WASTE TYPE **MTRU**

HANDLING **RH**

GENERATOR SITE **AW**

AW-W018

CONTAINER: RH Canister

Type/Size: Steel

Container Matl: Steel

| | | |
|----------------|-------|----|
| Int. Vol/Ctnr: | 0.112 | m3 |
|----------------|-------|----|

Liner Type: [

Liner Material:

Number Stored:

Number Projected:

| TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m ³) | STORED TRU WASTE - ESTIMATED | TYPICAL ISOTOPIC COMPOSITION |
|---|------------------------------|------------------------------|
| 1000 | 1000 | 1000 |
| 1500 | 1500 | 1500 |
| 2000 | 2000 | 2000 |
| 2500 | 2500 | 2500 |
| 3000 | 3000 | 3000 |
| 3500 | 3500 | 3500 |
| 4000 | 4000 | 4000 |
| 4500 | 4500 | 4500 |
| 5000 | 5000 | 5000 |
| 5500 | 5500 | 5500 |
| 6000 | 6000 | 6000 |
| 6500 | 6500 | 6500 |
| 7000 | 7000 | 7000 |
| 7500 | 7500 | 7500 |
| 8000 | 8000 | 8000 |
| 8500 | 8500 | 8500 |
| 9000 | 9000 | 9000 |
| 9500 | 9500 | 9500 |
| 10000 | 10000 | 10000 |

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 256.1 | 256.1 | 256.1 |
| Aluminum-Based Metals/Alloys | 27.8 | 27.8 | 27.8 |
| Other Metals | 24.7 | 24.7 | 24.7 |
| Other Inorganic Materials | 29.3 | 2.3 | 29.3 |
| Cellulosics | 7.4 | 0.0 | 45.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 15.1 | 0.0 | 67.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | | |
| Packaging Material, Plastic | 0.0 | | |

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 7.1 | 7.1 m3 |
| 1994: | 0.2 | 0.2 m3/yr |
| 1995: | 0.2 | 0.2 m3/yr |
| 1996: | 0.2 | 0.2 m3/yr |
| 1997: | 0.2 | 0.2 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D001C

D003D

Comments

CH-ANL-180T will be treated to remove sodium contamination from waste to meet the WMPP WAC (no reactives). The final waste form to be sent to WMPP will be metal TRU waste material (no sodium contamination).

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AW

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ RH ☐ GENERATOR SITE ☐ AW

| | | | |
|---|------------------------|--------------------|------------------------------|
| WASTE STREAM | MWIR ID AW-W019 | STREAM NAME | Sodium Potassium-(NaK) - TRU |
| WIPP ID AW-W019 | | | |
| Local ID CH-ANL-182T | | DESCRIPTION | Sodium Potassium - NaK - TRU |
| MATRIX CODE | 6200 | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group Site Matrix Description Uncategorized Metal Sodium potassium alloy (NaK) is used as a coolant for some components of the EBR-II reactor. Waste NaK metal is a hazardous constituent of some transuranic wastes stored at the ANL-W Radioactive Scrap and Waste Facility (RSWF). The remote-handled NaK waste at RSWF is contained in stainless steel capsules or tubing and placed inside carbon steel waste cans which are then placed in stainless steel outer cans. The entire package is then stored in RSWF storage liners (carbon steel soil storage vaults). The NaK is generated during maintenance and operational activities. NaK waste is in canisters with TRU waste metal pieces and rods from reactor experiments. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

☐ Defense TRU Waste
☒ Non-Defense TRU Waste
☐ Commercial TRU Waste
☐ Unknown

☐ Mixed TRU
☒ Non-Mixed TRU
☐ Suspect Mixed TRU
☐ Unknown

☒
☐
☐
☐

Research and Devel. Waste
 Operations Waste
 Residues
 Decon and Decommissioning
 Environmental Restoration
 From Treatment of Waste
 Maintenance

☒
☐
☐
☐
☐
☒

TSCA
 Asbestos
 PCBs
 Other
 N/A
 Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AW

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE AW

AW-W019

CONTAINER: ANL-W RH Canister

Type/Size: ANL-W RH Canister

Container Mat: Steel/lead

Int. Vol/Ctnr: 0.112m3

Liner Type: Metal Insert

Liner Material: Carbon steel

Number Stored: 1

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average |
|------------------------------|---------|
| Iron-based Metals/Alloys | 256.1 |
| Aluminum-Based Metals/Alloys | 27.8 |
| Other Metals | 24.7 |
| Other Inorganic Materials | 29.3 |
| Cellulosics | 7.4 |
| Rubber | 0.0 |
| Plastics | 15.1 |
| Solidified, Inorganic matrix | 0.0 |
| Solidified, Organic matrix | 0.0 |
| Soils | 0.0 |
| Packaging Materials, Steel | 0.0 |
| Packaging Material, Plastic | 0.0 |

| | Lower Limit | Upper Limit |
|--------------|-------------|-------------|
| End of 1992: | 256.1 | 256.1 |
| End of 1993: | 27.8 | 27.8 |
| 1994: | 24.7 | 24.7 |
| 1995: | 2.3 | 29.3 |
| 1996: | 0.0 | 45.3 |
| 1997: | 0.0 | 0.0 |
| 1998-2002: | 0.0 | 57.6 |
| 2003-2022: | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------|
| End of 1992: | 0.112 | 0.112 m3 |
| End of 1993: | 0.112 | 0.112 m3 |
| 1994: | 0.000 | 0.000 m3/yr |
| 1995: | 0.000 | 0.000 m3/yr |
| 1996: | 0.000 | 0.000 m3/yr |
| 1997: | 0.000 | 0.000 m3/yr |
| 1998-2002: | 0.000 | 0.000 m3/yr |
| 2003-2022: | 0.000 | 0.000 m3/yr |

TYPICAL EPA CODES APPLICABLE

D001C

D003D

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **AW** WASTE TYPE **MTRU** HANDLING **RH** GENERATOR SITE **AW**

| | | |
|----------------------------|------------------------------------|---|
| WASTE STREAM | WWIR ID AW-W020 | STREAM NAME TRU-CD-Hot Cell Waste |
| | WIPP ID AW-W020 | |
| | Local ID CH-ANL-241T | |
| MATRIX CODE | 5400 | DESCRIPTION TRU-CD-Hot Cell Waste |
| SITE FINAL FORM IDC | | |

Waste Matrix Code Group **Heterogeneous**
Site Matrix Description This waste stream consists of metallic cadmium, soils, and associated cleanup materials (paper towels and cloth rags). The waste is contaminated with activation and fission products as well as with plutonium. This waste stream is generated for Fuel Cycle Facility demonstration support experiments.

NO MIGRATION VARIANCE PETITION ASSIGNMENT **TRUCON CODE**

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|--------------------------|---------------------------|-------------------------------------|------|--------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input checked="" type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **AW**

WASTE TYPE **MTRU** HANDLING **RH** GENERATOR SITE **AW**

AW-W020 CONTAINER: **ANL-W RH Canister** Type/Size: **ANL-W RH Canister** Container Mat: **Steel/lead** Int. Vol/Ctnr: **0.112m³** Liner Type: Liner Material: Number Stored: **5** Number Projected: **1**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|--------------------------|
| End of 1992: | 0.000 | 0.200 m ³ |
| End of 1993: | 0.590 | 0.590 m ³ |
| 1994: | 0.010 | 0.010 m ³ /yr |
| 1995: | 0.010 | 0.010 m ³ /yr |
| 1996: | 0.010 | 0.010 m ³ /yr |
| 1997: | 0.010 | 0.010 m ³ /yr |
| 1998-2002: | 0.008 | 0.008 m ³ /yr |
| 2003-2022: | 0.000 | 0.000 m ³ /yr |

TYPICAL EPA CODES APPLICABLE
D006A

TYPICAL ISOTOPIC COMPOSITION

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AW

WASTE TYPE ☐ MTRU ☐ RH ☐ GENERATOR SITE ☐ AW

| | | | | |
|---|----------|-------------|--------------------|----------------------------|
| WASTE STREAM | MMWR ID | AW-W021 | STREAM NAME | Metal Debris |
| | WIPP ID | AW-W021 | | |
| | Local ID | CH-ANL-243T | DESCRIPTION | ELEMENT HARDWARE FCF WASTE |
| MATRIX CODE | | 5100 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group Site Matrix Description This waste stream consists of metal, and of EER N fuel elements. This waste stream will be generated from the "Element Chopper" station in the ANL-W Fuel Cycle Facility demonstration. | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|--------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input checked="" type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **AW**

WASTE TYPE **MTRU**

HANDLING **RH**

GENERATOR SITE **AW**

AW-W021

CONTAINER: **ANL-W/RH Canister**
Type/Size: **ANL-W/RH Canister**

Container Matl: **Steel**
Int. Vol/Cntr: **0.112m3**

Liner Type:
Liner Material:

Number Stored: **0**
Number Projected: **7**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 256.1 | 256.1 | 256.1 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 7.4 | 0.0 | 45.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 15.1 | 0.0 | 67.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------|
| End of 1992: | 0.000 | 0.600 m3 |
| End of 1993: | 0.000 | 0.000 m3 |
| 1994: | 0.000 | 0.000 m3/yr |
| 1995: | 0.150 | 0.150 m3/yr |
| 1996: | 0.150 | 0.150 m3/yr |
| 1997: | 0.150 | 0.150 m3/yr |
| 1998-2002: | 0.006 | 0.006 m3/yr |
| 2003-2022: | 0.000 | 0.000 m3/yr |

TYPICAL EPA CODES APPLICABLE

D005A

D006A

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AW

WASTE TYPE ☐ MTRU ☐ RH ☐ GENERATOR SITE ☐ AW

| | | | | |
|---|----------|-------------|--------------------|--------------------------------------|
| WASTE STREAM | MMIR ID | AW-W022 | STREAM NAME | Electro Refiner Insolubles w/Cadmium |
| | WIPP ID | AW-W022 | | |
| | Local ID | CH-ANL-246T | DESCRIPTION | Electro Refiner Insolubles w/Cadmium |
| MATRIX CODE | | 3150 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group Lead/Cadmium Metal Waste This waste stream consists of cadmium metal with other heavy metals and "mable" metals (that is, they are not reactive in the FCF electrorefining process). This waste stream will be generated from the electrorefiner station in the ANL-W Fuel Cycle Facility Integral Fast Reactor demonstration. This waste stream includes inorganic sludges/particulates. | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME AW

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE AW

AW-W022

CONTAINER: ANL-W/RH Canister

Type/Size: ANL-W/RH Canister

Container Matl: Steel/Lead

Int. Vol/Ctnr: 0.112m3

Liner Type:

Liner Material:

Number Stored: 0

Number Projected: 1

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 489.0 | 28.8 | 754.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 206.9 | 101.0 | 619.2 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------|
| End of 1992: | 0.000 | 0.072 m3 |
| End of 1993: | 0.000 | 0.000 m3 |
| 1994: | 0.000 | 0.000 m3/yr |
| 1995: | 0.020 | 0.020 m3/yr |
| 1996: | 0.020 | 0.020 m3/yr |
| 1997: | 0.020 | 0.020 m3/yr |
| 1998-2002: | 0.008 | 0.008 m3/yr |
| 2003-2022: | 0.000 | 0.000 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006A

TYPICAL ISOTOPIIC COMPOSITION

Nuclide Activity

BATTELLE COLUMBUS LABORATORY (BC) WASTE STREAM PROFILES

The following modifications were made by the WTWBIR team in developing the BC waste stream profiles:

- BC Final Waste Form Groups were modified to be consistent with the nomenclature used in the WTWBID. These changes included word and spelling changes. The assigned Final Waste Form Groups are consistent with the information provided by BC.
- The WTWBIR ID "RHTRU" submitted by BC was changed to BC-T001 to be consistent with the ID's used in the WTWBIR database.
- The containers for RH-TRU waste streams were reported as drums by the site. The drums were changed to RH canisters, with three drums overpacked in each canister.
- The volumes for the years 1998-2002 were reported by the site as total volumes for each five-year period. The WTWBIR team converted the values to volume/year.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME BC

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE BC

| | | | |
|---------------------|----------|-------------|------------------------|
| WASTE STREAM | WMIR ID | STREAM NAME | RH/TRU RUBBLE/DEBRIS |
| | WIPP ID | | |
| | Local ID | | |
| MATRIX CODE | | DESCRIPTION | RUBBLE/DEBRIS WITH TRU |
| SITE FINAL FORM IDC | | | |

Waste Matrix Code Group
Site Matrix Description

Heterogeneous

Heterogeneous Debris

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|---|
| Defense TRU Waste | X |
| Non-Defense TRU Waste | |
| Commercial TRU Waste | |
| Unknown | |

| | |
|-------------------|--|
| Mixed TRU | |
| Non-Mixed TRU | |
| Suspect Mixed TRU | |
| Unknown | |

| | | | |
|--|---|--|--|
| | X | | |
|--|---|--|--|

| | |
|---------------------------|---|
| Research and Devel. Waste | |
| Operations Waste | |
| Residues | |
| Decon and Decommissioning | X |
| Environmental Restoration | |
| From Treatment of Waste | |
| Maintenance | |

| | |
|----------|---|
| TSCA | |
| Asbestos | |
| PCBs | |
| Other | X |
| N/A | |
| Unknown | |

| | | | | |
|--|--|--|---|--|
| | | | X | |
|--|--|--|---|--|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME BC

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE BC

BC-T001

CONTAINER: RH Canister

Type/Size:

Container Mat: steel/lead

Int. Vol/Ctnr: 0.89 m³

Liner Type:

Liner Material:

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 2000.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 527.0 | | |
| Packaging Material, Plastic | 26.0 | | |

STORED TRU WASTE - ESTIMATED

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------------------|
| End of 1992: | 0.0 | 0.0 m ³ |
| End of 1993: | 0.0 | 0.0 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 14.2 | 14.2 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Kr85 | 6.00E-02 Curies/m ³ |
| Sr90 | 3.50E-01 Curies/m ³ |
| Zr95 | 3.00E+00 Curies/m ³ |
| Nb95 | 4.70E+00 Curies/m ³ |
| Ru106 | 4.80E+00 Curies/m ³ |
| I129 | 2.40E-07 Curies/m ³ |
| Cs134 | 5.80E-01 Curies/m ³ |
| Cs137 | 6.20E-01 Curies/m ³ |
| Ce144 | 4.70E+00 Curies/m ³ |
| Co60 | 3.00E+01 Curies/m ³ |
| U235 | 2.40E-07 Curies/m ³ |
| U238 | 1.70E-05 Curies/m ³ |
| Pu238 | 2.90E-03 Curies/m ³ |
| Pu239 | 3.70E-04 Curies/m ³ |
| Pu240 | 4.80E-04 Curies/m ³ |
| Pu241 | 1.40E-01 Curies/m ³ |

Comments

BC has no mixed TRU waste.

Footnotes

Includes 465 kg/m³ in lead shielding.

BC-T001 - 2

BC - 2

2/28/95

**BETTIS ATOMIC POWER LABORATORY (BT)
WASTE STREAM PROFILES**

The following assumptions/modifications were made by the WTWBIR team in developing the BT waste stream profiles:

- The two digit site identification code used in the MWIR (BT) has been substituted for "BE."

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME BT

WASTE TYPE TRU HANDLING RH GENERATOR SITE BT

| | | |
|---------------------|------------------|---|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID BT-T001 | Irradiated TRU material waste |
| | Local ID BT-T001 | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | Specimen processing fines, material, and debris resulting from operations involving destructive evaluations of irradiated fuel specimens. |

Waste Matrix Code Group Heterogeneous
 Site Matrix Description Refer to "description" above

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|--------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input checked="" type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME BT

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE BT

BT-T001

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: Steel

Int. Vol/Ctnr: 0.261 m3

Liner Type: n/a

Liner Material:

Number Stored: 0

Number Projected: 7

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 425.0 | 350.0 | 500.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 10.0 | 0.0 | 20.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 450.0 | 350.0 | 550.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 875.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.3 | 0.3 m3/yr |
| 1996: | 0.2 | 0.2 m3/yr |
| 1997: | 0.3 | 0.3 m3/yr |
| 1998-2002: | 0.1 | 0.1 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Ba137m | 1.00E+03 Curies/m3 |
| Cs137 | 1.05E+03 Curies/m3 |
| Y90 | 1.05E+03 Curies/m3 |
| Sr90 | 1.05E+03 Curies/m3 |
| Co60 | 5.00E+01 Curies/m3 |
| Cs134 | 5.00E+01 Curies/m3 |
| Eu154 | 5.00E+01 Curies/m3 |
| Fe55 | 5.00E+01 Curies/m3 |
| Kr85 | 5.00E+01 Curies/m3 |
| Ni63 | 1.50E+02 Curies/m3 |
| Pm147 | 3.50E+02 Curies/m3 |
| Eu152 | 5.00E+01 Curies/m3 |
| Pu238 | 5.00E+01 Curies/m3 |

BT-T001 - 2

BT - 2

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME BT

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE BT

| | | |
|-------------------------------|------------------|--|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID BT-T002 | Contaminated Piping System |
| | Local ID BT-T002 | |
| MATRIX CODE | | DESCRIPTION |
| | | Piping, pumps, tanks, other metal items, and debris. |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | | |
| Site Matrix Description | | |
| Heterogeneous | | |
| Refer to "description" above. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|---|
| Defense TRU Waste | |
| Non-Defense TRU Waste | X |
| Commercial TRU Waste | |
| Unknown | |

| | |
|-------------------|--|
| Mixed TRU | |
| Non-Mixed TRU | |
| Suspect Mixed TRU | |
| Unknown | |

| | | | | |
|--|---|--|--|--|
| | X | | | |
|--|---|--|--|--|

| | |
|---------------------------|---|
| Research and Devel. Waste | X |
| Operations Waste | |
| Residues | |
| Decon and Decommissioning | X |
| Environmental Restoration | |
| From Treatment of Waste | |
| Maintenance | |

| | |
|----------|---|
| TSCA | |
| Asbestos | |
| PCBs | |
| Other | X |
| N/A | |
| Unknown | |

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME BT

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE BT

BT-T002

CONTAINER: Standard Waste Box

Type/Size:

Container Matl: Steel

Int. Vol/Ctnr: 1.89m3

Liner Type: N/A

Liner Material:

Number Stored: 0

Number Projected: 8

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 430.0 | 340.0 | 500.0 |
| Aluminum-Based Metals/Alloys | 35.0 | 28.0 | 40.0 |
| Other Metals | 1.0 | 0.0 | 10.0 |
| Other Inorganic Materials | 1.0 | 0.0 | 5.0 |
| Cellulosics | 0.0 | 0.0 | 1.0 |
| Rubber | 7.0 | 6.0 | 10.0 |
| Plastics | 35.0 | 30.0 | 40.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 1.0 | 0.0 | 10.0 |
| Packaging Materials, Steel | 208.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 2.3 | 2.3 m3/yr |
| 2003-2022: | 0.2 | 0.2 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Ba137m | 1.10E+00 Curies/m3 |
| Cs137 | 1.10E+00 Curies/m3 |
| Y90 | 1.10E+00 Curies/m3 |
| Sr90 | 1.10E+00 Curies/m3 |
| Co60 | 1.00E-01 Curies/m3 |
| Cs134 | 1.00E-01 Curies/m3 |
| Eu154 | 1.00E-01 Curies/m3 |
| Fe55 | 1.00E-01 Curies/m3 |
| Kr85 | 1.00E-01 Curies/m3 |
| Ni63 | 2.00E-01 Curies/m3 |
| Pm147 | 4.00E-01 Curies/m3 |
| Eu152 | 1.00E-01 Curies/m3 |
| Pu238 | 1.00E-01 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME BT

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE BT

| | | |
|---------------------|----------|--|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | Unirradiated Alpha Contaminated Waste |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | Steel gloveboxes, ceramic and steel furnaces, steel presses, steel grinding machines, steel ventilation ducts, and HEPA filters. |

Waste Matrix Code Group
Site Matrix Description Heterogeneous
Refer to "description" above.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

TSCA
Asbestos
PCBs
Other
N/A
Unknown

X

BT-T003 - 1

BT - 5

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME BT

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE BT

BT-T003

CONTAINER: Standard Waste Box

Type/Size:

Container Mat: Steel

Int. Vol/Ctnr: 1.89 m³

Liner Type: N/A

Liner Material:

Number Stored: 0

Number Projected: 57

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 285.0 | 200.0 | 700.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 16.0 | 11.0 | 40.0 |
| Cellulosics | 8.0 | 5.0 | 20.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 8.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------------------|
| End of 1992: | 0.0 | 0.0 m ³ |
| End of 1993: | 0.0 | 0.0 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 26.6 | 26.6 m ³ /yr |
| 1997: | 17.1 | 17.1 m ³ /yr |
| 1998-2002: | 12.9 | 12.9 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| U232 | 2.00E-03 Curies/m ³ |
| U233 | 9.70E-02 Curies/m ³ |
| Th228 | 2.00E-03 Curies/m ³ |
| Ra224 | 2.00E-03 Curies/m ³ |
| Rn220 | 2.00E-03 Curies/m ³ |
| Po216 | 2.00E-03 Curies/m ³ |
| Pb212 | 2.00E-03 Curies/m ³ |
| Bi212 | 2.00E-03 Curies/m ³ |
| Po212 | 2.00E-03 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

BT-T003 - 2

BT - 6

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **BT**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **BT**

| | | | |
|--------------------------------|-----------------|-------------------------------|----------------------|
| WASTE STREAM | MWIR ID | STREAM NAME | Source |
| | WIPP ID | | |
| | Local ID | | |
| MATRIX CODE | | DESCRIPTION | Americium-243 Source |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Heterogeneous | |
| Site Matrix Description | | Refer to "description" above. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

TSCA
Asbestos
PCBs
Other
N/A
Unknown

X

BT-T004 - 1

BT - 7

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME BT

WASTE TYPE TRU HANDLING CH GENERATOR SITE BT

BT-T004 CONTAINER: Drum Type/Size: 55-gallon

Container Matl: Steel Int. Vol/Ctnr: 0.208m³ Liner Type: N/A Liner Material:

Number Stored: 0 Number Projected: 1

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.8 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 500.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

Comments

Single source with packaging material. Lower and upper limits not applicable.

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|--------------------|
| End of 1992: | 0.00000 | m ³ |
| End of 1993: | 0.00000 | m ³ |
| 1994: | 0.00000 | m ³ /yr |
| 1995: | 0.00025 | m ³ /yr |
| 1996: | 0.00000 | m ³ /yr |
| 1997: | 0.00000 | m ³ /yr |
| 1998-2002: | 0.00000 | m ³ /yr |
| 2003-2022: | 0.00000 | m ³ /yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am243 | 3.20E+00 Curies/m ³ |
| Np239 | 3.20E+00 Curies/m ³ |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **BT**

WASTE TYPE **TRU** HANDLING **CH** GENERATOR SITE **BT**

| | | | |
|-------------------------|----------|-------------------------------|------------------------|
| WASTE STREAM | MWIR ID | STREAM NAME | Source |
| | WIPP ID | | |
| | Local ID | | |
| MATRIX CODE | | DESCRIPTION | Californium-252 Source |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Heterogeneous | |
| Site Matrix Description | | Refer to "description" above. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|--------------------------|---------------------------|-------------------------------------|------|--------------------------|----------|--------------------------|
| Defense TRU Waste | <input type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input checked="" type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME BT

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE BT

| | | | | |
|---------|----------------------|-------------------------------------|-----------------|---------------------|
| BT-T005 | CONTAINER: Drum | Container Mat: Steel | Liner Type: N/A | Number Stored: 0 |
| | Type/Size: 55-gallon | Int. Vol/Ctnr: 0.261 m ³ | Liner Material: | Number Projected: 1 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 15.4 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 500.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------------|
| End of 1992: | 0.0000000 | 0.0000000 m ³ |
| End of 1993: | 0.0000000 | 0.0000000 m ³ |
| 1994: | 0.0000000 | 0.0000000 m ³ /yr |
| 1995: | 0.0000036 | 0.2080000 m ³ /yr |
| 1996: | 0.0000000 | 0.0000000 m ³ /yr |
| 1997: | 0.0000000 | 0.0000000 m ³ /yr |
| 1998-2002: | 0.0000000 | 0.0000000 m ³ /yr |
| 2003-2022: | 0.0000000 | 0.0000000 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| C1249 | 3.50E-01 Curies/m ³ |
| C1250 | 5.60E+00 Curies/m ³ |
| C1251 | 9.00E-02 Curies/m ³ |
| C1252 | 1.00E+00 Curies/m ³ |
| Cm246 | 4.30E-02 Curies/m ³ |
| MFP | 6.30E-01 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

Comments

Single source with packaging material. Lower and upper limits not applicable.

ENERGY TECHNOLOGY ENGINEERING CENTER (ET) WASTE STREAM PROFILES

The following assumptions/modifications were made by the WTWBIR team in developing the ET waste stream profiles:

- Final Waste Form Groups were not provided by ET. In order to permit roll-ups of the data, the WTWBIR team assigned Final Waste Form Groups based on the descriptions and parameters provided by ET.
- The WTWBIR team had to assign identification numbers (IDs) to those ET waste streams not given an identifier by the site.
- Since only current volumes were provided by ET, the final form volumes were assumed to be the same as the current volumes.
- The volumes for the year 1993 were changed from an annual rate of generation (m^3/year) to a cumulative value (m^3).

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME ET

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ ET

| | | |
|----------------------------|----------------|--|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | ET-M001 | Hot Lab & PU Facility D&D |
| MATRIX CODE | WIPP ID | DESCRIPTION |
| | Local ID | 1 lead shielding brick plus additional hot material. |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | | |
| Site Matrix Description | | |
| Lead/Cadmium Metal Waste | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒ ☐ ☐ ☐ ☐

Non-Defense TRU Waste ☐ ☐ ☐ ☐ ☐

Commercial TRU Waste ☐ ☐ ☐ ☐ ☐

Unknown ☐ ☐ ☐ ☐ ☐

Mixed TRU ☐ ☐ ☐ ☐ ☐

Non-Mixed TRU ☐ ☐ ☐ ☐ ☐

Suspect Mixed TRU ☐ ☐ ☐ ☐ ☐

Unknown ☐ ☐ ☐ ☐ ☐

☒ ☐ ☐ ☐ ☐

Research and Devel. Waste ☐ ☐ ☐ ☐ ☐

Operations Waste ☐ ☐ ☐ ☐ ☐

Residues ☐ ☐ ☐ ☐ ☐

Decon and Decommissioning ☒ ☐ ☐ ☐ ☐

Environmental Restoration ☐ ☐ ☐ ☐ ☐

From Treatment of Waste ☐ ☐ ☐ ☐ ☐

Maintenance ☐ ☐ ☐ ☐ ☐

TSCA ☐ ☐ ☐ ☐ ☐

Asbestos ☐ ☐ ☐ ☐ ☐

PCBs ☐ ☐ ☐ ☐ ☐

Other ☐ ☐ ☐ ☐ ☐

N/A ☐ ☐ ☐ ☐ ☐

Unknown ☐ ☐ ☐ ☐ ☐

☐ ☐ ☐ ☒ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME ET

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE ET

| | | | | |
|---------|----------------------|------------------------------------|-----------------------------|---------------------|
| ET-M001 | CONTAINER: Drum | Container Mat: steel-galv. | Liner Type: rigid | Number Stored: 1 |
| | Type/Size: 55-gallon | Int. Vol/Ctnr: 0.21 m ³ | Liner Material: HDPE-90 mil | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 185.0 | 185.0 | 185.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 168.0 | 168.0 | 168.0 |
| Packaging Material, Plastic | 34.0 | 34.0 | 34.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------------------|
| End of 1992: | 0.21 | 0.21 m ³ |
| End of 1993: | 0.21 | 0.21 m ³ |
| 1994: | 0.00 | 0.00 m ³ /yr |
| 1995: | 0.00 | 0.00 m ³ /yr |
| 1996: | 0.00 | 0.00 m ³ /yr |
| 1997: | 0.00 | 0.00 m ³ /yr |
| 1998-2002: | 0.00 | 0.00 m ³ /yr |
| 2003-2022: | 0.00 | 0.00 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu238 | 4.60E-01 Curies/m ³ |
| Pu239 | 7.60E+00 Curies/m ³ |
| Pu240 | 2.60E+00 Curies/m ³ |
| Pu242 | 1.50E-04 Curies/m ³ |
| Am241 | 1.90E+00 Curies/m ³ |
| Pu241 | 3.50E+01 Curies/m ³ |
| Cs137 | 1.10E+00 Curies/m ³ |
| Sr90 | 1.00E+00 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D008

Comments

Other metals - lead.

Footnotes

Have assumed D008 EPA code due to the presence of lead.

ET-M001 - 2

ET - 2

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME ET

WASTE TYPE ☒ TRU HANDLING ☒ CH GENERATOR SITE ☒ ET

| | | | |
|-------------------------|---------|---|--|
| <u>WASTE STREAM</u> | | <u>STREAM NAME</u> | |
| MWIR ID | ET-T001 | Hot Lab & PU Facility D&D | |
| WIPP ID | | | |
| Local ID | | | |
| <u>MATRIX CODE</u> | | <u>DESCRIPTION</u> | |
| SITE FINAL FORM IDC | | Wastes generated from the clean-up of the Plutonium Facility (Bldg 55) and the Hot Lab (Bldg 20). | |
| Waste Matrix Code Group | | Heterogeneous | |
| Site Matrix Description | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

| | |
|---------------------------|-------------------------------------|
| Research and Devel. Waste | <input type="checkbox"/> |
| Operations Waste | <input type="checkbox"/> |
| Residues | <input checked="" type="checkbox"/> |
| Decon and Decommissioning | <input type="checkbox"/> |
| Environmental Restoration | <input type="checkbox"/> |
| From Treatment of Waste | <input type="checkbox"/> |
| Maintenance | <input type="checkbox"/> |

| | |
|----------|-------------------------------------|
| TSCA | <input type="checkbox"/> |
| Asbestos | <input type="checkbox"/> |
| PCBs | <input type="checkbox"/> |
| Other | <input checked="" type="checkbox"/> |
| N/A | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME ET

WASTE TYPE TRU HANDLING CH GENERATOR SITE ET

| | | | | |
|---------|---|---|---|--|
| ET-T001 | CONTAINER: Drum Type/Size: 55-gallon | Container Matl: steel Int. Vol/Ctnr: 0.21 m3 | Liner Type: rigid Liner Material: concrete | Number Stored: 0 Number Projected: 25 |
|---------|---|---|---|--|

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 126.0 | 120.0 | 130.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 2040.0 | 2000.0 | 2100.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 28.0 | 10.0 | 60.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 168.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 5.2 | 5.2 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Iron-based metal - 8" dia. pipe which forms the concrete annulus.
Other inorganic materials - concrete liners (shielding).
Solidified, inorganic matrix - Debris from drain line.
Typical isotopic composition is unknown for this container.
Packaging Materials, Steel - Based on 35 kg/drum
Drums are for internal transfer and storage only. Although there is no plastic liner, R/A material is placed in one-gallon cans or plastic bags before placing in the concrete-lined drums
Would be "RH" without concrete liner.

ET-T001 - 2

ET - 4

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME ET

WASTE TYPE TRU HANDLING CH GENERATOR SITE ET

| | | | | |
|---------|---|--|---|---|
| ET-T001 | CONTAINER: Drum Type/Size: 55-gallon | Container Mat: steel - galv. Int. Vol/Ctnr: 0.21 m ³ | Liner Type: rigid Liner Material: HDPE-90 mil. | Number Stored: 8 Number Projected: 0 |
|---------|---|--|---|---|

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 144.0 | 70.0 | 300.0 |
| Other Inorganic Materials | 11.0 | 5.0 | 30.0 |
| Cellulosics | 16.0 | 8.0 | 30.0 |
| Rubber | 16.0 | 8.0 | 30.0 |
| Plastics | 113.0 | 50.0 | 250.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 204.0 | 100.0 | 400.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 168.0 | | |
| Packaging Material, Plastic | 34.0 | | |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 1.7 | 1.7 m ³ |
| End of 1993: | 1.7 | 1.7 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu238 | 1.00E-02 Curies/m ³ |
| Pu239 | 1.10E-01 Curies/m ³ |
| Pu240 | 4.10E-02 Curies/m ³ |
| Pu242 | 4.80E-06 Curies/m ³ |
| Am241 | 3.40E-02 Curies/m ³ |
| Pu241 | 7.10E-01 Curies/m ³ |
| Cs137 | 1.20E-01 Curies/m ³ |
| Cr90 | 1.20E-01 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

Comments

Other metals - unknown if iron- or aluminum-based.
Other inorganic materials - vermiculite.
Cellulosics - wood, paper.
Solidified, organic matrix - solidified oil
Packaging Materials, Steel - Based on 35 kg/drum

ET-T001 - 3

ET - 5

2/28/95

IDAHO NATIONAL ENGINEERING LABORATORY (IN) WASTE STREAM PROFILE METHODOLOGY

The approach used and the assumptions made in preparing the IN waste stream profiles are as follows:

- WTWBIR, Revision 0 waste stream profile data was reviewed and updated by IN to generate Revision 1 WTWBIR data. The primary sources used for the IN review were data from the Idaho Mixed Waste Information (IMWI) system and the IN Draft Site Treatment Plan (DSTP), (Ref. 5). Other sources of information included the Radiological, Physical, and Chemical Characterization of Transuranic Wastes Stored at the IN Report (Ref. 4), the TRU Waste Sampling Program (TWSP) Report (Ref. 1), the Content Code Assessments (Ref. 2), and the Exploratory Research and Development Program (ERDP) 2802 Report (Ref. 3).
- The IMWI contains container level data on all waste stored at the IN. Although the IMWI was initially designed to inventory mixed waste, non-mixed waste is also inventoried in this system. The DSTP database is derived from the data stored in the IMWI and provides determinations and assumptions of the treatment plans and options for proper waste management. The Characterization Report (Ref. 4) contains detailed composition information on each waste stream; most of this information was also derived from the IMWI.
- To determine volume and radionuclide inventory information for Revision 1 WTWBIR, IN corrected and updated the Revision 0 WTWBIR data, as needed, through manipulation and calculation of data existing in the IMWI. This consisted of calculating the volume of waste that will be available for direct shipping to WIPP, the volume of waste that will require repackaging prior to shipment, the volume resulting from treatment of waste prior to shipment to WIPP, and the average curie concentration of all contained radionuclides for each waste stream. Presently, the WTWBIR waste stream profiles sum the volumes for direct ship waste and repackaged waste to report as one volume. All calculations were made on a waste volume basis, as the method used in the IMWI and the DSTP, then converted into container counts where appropriate.
- All treated waste is grouped into a new vitrified final form waste stream number IN-M07. Volumes for wastes after vitrification are reported in this waste stream. Curie concentrations for this waste stream are weighted average of all wastes that are treated and included in the final waste form volume.
- Material parameter data entries in the "Typical Material Weights for Final Waste Form" of the waste stream profiles were determined using information from past waste examination programs and knowledge gained in the WIPP Experimental Test Program. This consisted of reviewing past and current visual waste characterization activities and determining average, maximum, and minimum concentrations of waste constituent parameters, where possible. The majority of the data can be traced back to the TRU Waste Sampling Program (TWSP) Report (Ref. 1), the Content Code Assessments (Ref. 2), or the Characterization Report (Ref. 4). Waste volumes used to correct Revision 0 WTWBIR parameter densities were based on the Exploratory Research and Development Program (ERDP) 2802 report (Ref. 3), which includes data obtained from the TRU Waste Management Information System (TWMIS) in 1990. The Characterization Report and IN Draft Site Treatment Plan were also used to determine the typical material weights reported on the waste stream profile sheets, when information from the above sources were inadequate.

SITE NAME IN

| WASTE TYPE | MTRU | HANDLING | RH | GENERATOR SITE | AW |
|------------|------|----------|----|----------------|----|
| | | | | | |

| | | | |
|--------------------------------|-------------------|--------------------|--|
| <u>WASTE STREAM</u> | <u>MWIR ID</u> | <u>STREAM NAME</u> | |
| | <u>WIPP ID</u> | | Electrorefiner Stripped Salts - Ba & Cd |
| | <u>Local ID</u> | <u>DESCRIPTION</u> | |
| | | | Chloride salts containing residual amounts of Cd and Ba. |
| <u>MATRIX CODE</u> | | | |
| <u>SITE FINAL FORM IDC</u> | | | |
| <u>Waste Matrix Code Group</u> | <u>Salt Waste</u> | | |
| <u>Site Matrix Description</u> | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

[illegible]

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING RH GENERATOR SITE AW

IN-M001

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208/m3

Liner Type:
Liner Material:

Number Stored: 0
Number Projected: 13

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.1 m3/yr |
| 1996: | 0.0 | 0.1 m3/yr |
| 1997: | 0.0 | 0.1 m3/ry |
| 1998-2002: | 0.0 | 0.1 m3/yr |
| 2003-2022: | 0.0 | 0.1 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|-----------|
| Ba137 | Curies/m3 |
| Cs134 | Curies/m3 |
| Cs137 | Curies/m3 |
| I129 | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Estimate generation of approximately 0.1 m3/yr.

Activity for these radionuclides is unknown.

IN-M001 - 2

IN - 2

2/28/95

SITE NAME IN

| | | | | | |
|------------|------|----------|----|----------------|----|
| WASTE TYPE | MTRU | HANDLING | RH | GENERATOR SITE | AW |
|------------|------|----------|----|----------------|----|

| | | | |
|--------------------------------|-----------------|--------------------|--|
| <u>WASTE STREAM</u> | <u>MWIR ID</u> | <u>STREAM NAME</u> | TRU-CD-Hot Cell Waste |
| | <u>WIPP ID</u> | | |
| | IN-M002 | | |
| | <u>Local ID</u> | <u>DESCRIPTION</u> | Metallic Cadmium, Salts, and cleanup material such as paper towels and rags. |
| <u>MATRIX CODE</u> | CH-ANL-241T | | |
| <u>SITE FINAL FORM IDC</u> | | | |
| <u>Waste Matrix Code Group</u> | Heterogeneous | | |
| <u>Site Matrix Description</u> | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| Defense TRU Waste | Non-Defense TRU Waste | Commercial TRU Waste | Unknown | Mixed TRU | Non-Mixed TRU | Suspect Mixed TRU | Unknown | Research and Devel. Waste | Operations Waste | Residues | Decon and Decommissioning | Environmental Restoration | From Treatment of Waste | Maintenance | TSCA | Asbestos | PCBs | Other | N/A | Unknown |
|-------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|---------------------------|---------------------------|--------------------------|--------------------------|-------------------------------------|----------|------|-------|-----|---------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE AW

IN-M002

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 3
Number Projected: 13

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------|
| End of 1992: | 0.624 | 0.624 m3 |
| End of 1993: | 0.624 | 0.624 m3 |
| 1994: | 0.000 | 0.000 m3/yr |
| 1995: | 0.100 | 0.100 m3/yr |
| 1996: | 0.100 | 0.100 m3/yr |
| 1997: | 0.100 | 0.100 m3/yr |
| 1998-2002: | 0.100 | 0.100 m3/yr |
| 2003-2022: | 0.100 | 0.100 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|-----------|
| Co60 | Curies/m3 |
| Cs134 | Curies/m3 |
| Cs137 | Curies/m3 |
| Mn54 | Curies/m3 |
| Pu239 | Curies/m3 |
| Ru106 | Curies/m3 |
| U235 | Curies/m3 |

Comments

Future generation estimated as less than 0-1 m3/yr.

Activity for these radionuclides is unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING RH GENERATOR SITE AW

| | | |
|-------------------------|----------------------|--|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID IN-M003 | Element Hardware FCF Waste |
| | Local ID CH-ANL-243T | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | Small pieces of stainless steel from nuclear fuel. |
| Waste Matrix Code Group | Uncategorized Metal | |
| Site Matrix Description | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

TSCA Asbestos
PCBs
Other
N/A
Unknown

IN-M003 - 1

IN - 5

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ RH ☐ GENERATOR SITE ☐ AW

IN-M003 CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208 m³

Liner Type: ☐
Liner Material: ☐

Number Stored: 0
Number Projected: 27

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 0.0 | 0.0 m ³ |
| End of 1993: | 0.0 | 0.0 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.2 m ³ /yr |
| 1996: | 0.0 | 0.2 m ³ /yr |
| 1997: | 0.0 | 0.2 m ³ /yr |
| 1998-2002: | 0.0 | 0.2 m ³ /yr |
| 2003-2022: | 0.0 | 0.2 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|-----------------------|
| Ba137 | Curies/m ³ |
| Ce144 | Curies/m ³ |
| Co58 | Curies/m ³ |
| Co60 | Curies/m ³ |
| Cr51 | Curies/m ³ |
| Cs137 | Curies/m ³ |
| Fe59 | Curies/m ³ |
| I129 | Curies/m ³ |
| Mn54 | Curies/m ³ |
| Mo93 | Curies/m ³ |
| Nb95 | Curies/m ³ |
| Ni63 | Curies/m ³ |
| Pr144 | Curies/m ³ |
| Pu239 | Curies/m ³ |
| Pu240 | Curies/m ³ |
| Sr90 | Curies/m ³ |
| Y90 | Curies/m ³ |
| Zr95 | Curies/m ³ |

Comments

Future generation estimated to be less than 0.2 m³/yr.

Activity for these radionuclides is unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ RH ☐ GENERATOR SITE ☐ AW

| | | |
|-------------------------|----------|-----------------------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | Electrorefiner Stripped Cadmium |
| | Local ID | Encapsulated waste cadmium metal. |
| MATRIX CODE | | |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | | |
| Site Matrix Description | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE AW

IN-M004

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: steel

Int. Vol/Ctnr: 0.208 m³

Liner Type:

Liner Material:

Number Stored: 0

Number Projected: 13

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|------------------------|------------------------|
| End of 1992: | 0.0 m ³ | 0.0 m ³ |
| End of 1993: | 0.0 m ³ | 0.0 m ³ |
| 1994: | 0.0 m ³ /yr | 0.0 m ³ /yr |
| 1996: | 0.1 m ³ /yr | 0.1 m ³ /yr |
| 1998: | 0.1 m ³ /yr | 0.1 m ³ /yr |
| 1997: | 0.1 m ³ /yr | 0.1 m ³ /yr |
| 1998-2002: | 0.1 m ³ /yr | 0.1 m ³ /yr |
| 2003-2022: | 0.1 m ³ /yr | 0.1 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|-----------------------|
| Ce144 | Curies/m ³ |
| Eu155 | Curies/m ³ |
| Pm147 | Curies/m ³ |
| Pr144 | Curies/m ³ |
| Sm151 | Curies/m ³ |
| Y91 | Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

Comments

Future generation estimated to be less than 0-1 m³/yr.
Activity for these radionuclides is unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING RH GENERATOR SITE AW

| | | |
|-------------------------|--------------------------|-------------------------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID IN-M005 | Electrorefiner Insolubles w/Cadmium |
| | Local ID CH-ANL-246T | Cadmium and other heavy metals |
| MATRIX CODE | | |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | Lead/Cadmium Metal Waste | |
| Site Matrix Description | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|--------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING RH GENERATOR SITE AW

| | | | | |
|---------|-----------------------------|--------------------------------|-------------------------|-----------------------------|
| IN-M005 | CONTAINER: <u>Drum</u> | Container Mat: <u>Steel</u> | Liner Type: <u></u> | Number Stored: <u>0</u> |
| | Type/Size: <u>55-gallon</u> | Int. Vol/Ctnr: <u>0.208 m3</u> | Liner Material: <u></u> | Number Projected: <u>13</u> |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.1 | 0.1 m3/yr |
| 1996: | 0.1 | 0.1 m3/yr |
| 1997: | 0.1 | 0.1 m3/yr |
| 1998-2002: | 0.1 | 0.1 m3/yr |
| 2003-2022: | 0.1 | 0.1 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|-----------|
| C14 | Curies/m3 |
| Cd113 | Curies/m3 |
| Nb95 | Curies/m3 |
| Rh106 | Curies/m3 |
| Ru106 | Curies/m3 |
| Sb125 | Curies/m3 |
| Sn123 | Curies/m3 |
| Tc99 | Curies/m3 |
| Te125 | Curies/m3 |
| Zr95 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Future generation estimated to be less than 0-1 m3/yr.

Activity for these radionuclides is unknown.

| SITE NAME | IN | WASTE TYPE | TRU | HANDLING | CH | GENERATOR SITE | IN |
|-----------|----|------------|-----|----------|----|----------------|----|
| | | | | | | | |

| | |
|---|-------------|
| NO MIGRATION VARIANCE PETITION ASSIGNMENT | TRUCON CODE |
|---|-------------|

| Waste Type | Asbestos | PCBs | Other | N/A | Unknown |
|---------------------------|----------|------|-------|-----|---------|
| Defense TRU Waste | | | | X | |
| Non-Defense TRU Waste | | | | | |
| Commercial TRU Waste | | | | | |
| Unknown | | | | | |
| Mixed TRU | | | | | |
| Non-Mixed TRU | | | | | |
| Suspect Mixed TRU | | | | | |
| Unknown | | | | | |
| Research and Devel. Waste | | | | | |
| Operations Waste | | | | | |
| Residues | | | | | |
| Decon and Decommissioning | | | | | |
| Environmental Restoration | | | | | |
| From Treatment of Waste | | | | | |
| Maintenance | | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE IN

IN-T001

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 14075.0 | 6748.0 m3 |
| End of 1993: | 14075.0 | 6748.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.14E+00 Curies/m3 |
| Np237 | 1.77E-06 Curies/m3 |
| Pu238 | 8.38E-01 Curies/m3 |
| Pu239 | 1.51E-01 Curies/m3 |
| Pu240 | 1.89E-02 Curies/m3 |
| Pu242 | 2.29E-07 Curies/m3 |
| Pu52 | 1.39E+01 Curies/m3 |
| Pu83 | 1.58E-03 Curies/m3 |
| U235 | 8.22E-07 Curies/m3 |
| U238 | 3.26E-08 Curies/m3 |

Comments

This waste is the vitrified waste resulting from treatment of all waste forms. It will likely be TRU waste only.

IN-T001 - 2

IN - 12

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☒ RH ☐ HANDLING ☐ GENERATOR SITE ☐ IN

| | | | |
|----------------------------|-------------|--|--|
| <u>WASTE STREAM</u> | | <u>STREAM NAME</u> | |
| MWIR ID | IN-W139 | Transuranic Contaminated Lead Debris | |
| WIPP ID | IN-W139 | | |
| Local ID | ID-EGG-142T | | |
| <u>MATRIX CODE</u> | | <u>DESCRIPTION</u> | |
| <u>SITE FINAL FORM IDC</u> | | | |
| Waste Matrix Code Group | | Heterogeneous | |
| Site Matrix Description | | This waste is lead contaminated lead debris from various sources. This debris includes lead pieces, galvanized sheet metal, copper/bronze ware, silicon, impregnated fiberglass, paper, HEPA filters, duct, etc. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ RH ☐ GENERATOR SITE ☐ IN

IN-W139 CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208m³

Liner Type: ☐
Liner Material: ☐

Number Stored: 25
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 5.4 | 5.4 m ³ |
| End of 1993: | 5.4 | 5.4 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D008C

Comments

Waste material weights and isotopic composition are unknown for this waste stream.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING RH GENERATOR SITE IN

| | | | |
|---|-----------------|--------------------|---------------------------------|
| <u>WASTE STREAM</u> | <u>WMIR ID</u> | <u>IN-W146</u> | <u>STREAM NAME</u> |
| | <u>WIPP ID</u> | <u>IN-W146</u> | Uncategorized Inorganic Sludges |
| | <u>Local ID</u> | <u>ID-EGG-291T</u> | |
| <u>MATRIX CODE</u> | | <u>3129</u> | <u>DESCRIPTION</u> |
| <u>SITE FINAL FORM IDC</u> | | | TRU Heavy Metal Sludge |
| <u>Waste Matrix Code Group</u> | | | |
| <u>Site Matrix Description</u> | | | |
| Solidified Inorganics | | | |
| 10 drums of TRU, mixed waste sludge was generated from cleaning of 4 catch tanks. Concentrations of radionuclides and hazardous waste vary from drum to drum. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ RH ☐ GENERATOR SITE ☐ IN

IN-W146 CONTAINER: Drum Type/Size: 55-gallon

Container Mat: Steel Int. Vol/Ctnr: 0.208/m3

Liner Type: Number Stored: 10

Liner Material: Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 394.2 | 173.1 | 528.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 399.0 | 173.1 | 528.8 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2.1 | 2.1 m3 |
| End of 1993: | 2.1 | 2.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.24E-01 Curies/m3 |
| Ce144 | 1.38E+00 Curies/m3 |
| Cm244 | 4.07E-01 Curies/m3 |
| Co60 | 7.21E-01 Curies/m3 |
| Cs134 | 2.80E+00 Curies/m3 |
| Cs137 | 3.07E+01 Curies/m3 |
| Eu154 | 3.55E-01 Curies/m3 |
| Eu155 | 2.01E+05 Curies/m3 |
| Pu238 | 3.71E-01 Curies/m3 |
| Pu239 | 3.04E-01 Curies/m3 |
| Sb125 | 1.34E-01 Curies/m3 |
| Sr90 | 4.18E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D006A
D007A
D008A
D009A
D011A

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | |
|-------------------------|---|-------------|---|
| WASTE STREAM | MWIR ID IN-W157 | STREAM NAME | Solidified Process Residues |
| | WIPP ID IN-W157 | | |
| | Local ID ID-EGG-112T-004 | DESCRIPTION | Cemented Sludges (TRU): Special Setups (Cement) |
| MATRIX CODE | 3150 | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | Solidified Inorganics | | |
| Site Matrix Description | This waste comes from the Rocky Flats Plant. It contains organic, alcohols, organic acids and Ethylene Diamine Tetra Acetic Acid (Versenes) set in portland and magnesia cements. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 213 TRUCON CODE ID 213

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W157

CONTAINER: SWB overpack

Type/Size:

Container Mat: steel

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 76

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 11.8 | 0.0 | 142.3 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 381.8 | 226.4 | 594.2 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 63.5 | 145.0 m3 |
| End of 1993: | 63.5 | 145.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 6.74E-02 Curies/m3 |
| Pu52 | 2.95E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002B
D006A
D008A
F001
F002
F003

Comments

76 in number stored is the number of SWBs that will result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W157 CONTAINER: Drum Type/Size: 55-gallon

Container Matl: steel Int. Vol/Ctnr: 0.208m3

Liner Type: Liner Material:

Number Stored: 785 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 26.9 | 0.0 | 325.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 872.0 | 0.0 | 0.0 |
| Soils | 0.0 | 517.0 | 1357.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 163.0 | 163.0 m3 |
| End of 1993: | 163.0 | 163.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.54E-01 Curies/m3 |
| Pu52 | 6.74E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002B
D006A
D008A
F001
F002
F003

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

| | | |
|---------------------|--------------------------|----------------------------------|
| WASTE STREAM | MWIR ID IN-W161 | STREAM NAME Ceramic/Brick Debris |
| | WIPP ID IN-W161 | |
| | Local ID ID-EGG-115T-371 | |
| MATRIX CODE | 5230 | |
| SITE FINAL FORM IDC | | |

DESCRIPTION Concrete-Brick (TRU); Firebrick

Waste Matrix Code Group
Site Matrix Description

Inorganic Non-metal

This waste contains whole and broken pieces of construction bricks, cinderblocks, and firebrick. Waste generated in the 1971 to 1973 period includes firebrick from the Pu recovery incinerator and related refractory development and from four boilers; cinderblocks and other brick from routine maintenance and from following the Rocky Flats Plant fire. Waste generated since 1973 is mostly firebrick from Pu recovery operations. The firebrick generated since 1973 is a high-alumina, high-strength, class 1 brick manufactured by Pilbrico (Plicast 40). Typical composition is A1203 = 95.67%, SiO2 = 0.03%, Fe2O3 = 0.10%, TiO2 = 0.01%, CaO = 3.6%, MgO = 0.8%, and Alkalies = 0.28%. Some of the incinerator firebrick is scarfed to remove surface contamination and then leached with nitric acid to recover Pu.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 122; 222B

TRUCON CODE ID 122; 222B

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | |
|---|---|--|--|--|--|
| X | X | | | | |
|---|---|--|--|--|--|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--|--|--|---|--|
| | | | X | |
|--|--|--|---|--|

IN-W161 - 1

IN - 20

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W161

CONTAINER: SWB overpack

Type/Size:

Container Matl: steel

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 23

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 193.1 | 48.6 | 385.4 |
| Cellulosics | 9.2 | 11.5 | 22.9 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 9.1 | 4.9 | 16.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 18.7 | 42.8 m3 |
| End of 1993: | 18.7 | 42.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.11E-02 Curies/m3 |
| Pu52 | 1.30E+01 Curies/m3 |
| U235 | 1.14E-07 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

F001
F002

Comments

23 in number stored is the number of SWBs that will result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|---------|----------------------|-------------------------|-----------------|---------------------|
| IN-W161 | CONTAINER: Drum | Container Matl: Steel | Liner Type: | Number Stored: 443 |
| | Type/Size: 55-gallon | Int. Vol/Ctnr: 0.208 m3 | Liner Material: | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 441.0 | 111.0 | 880.0 |
| Cellulosics | 21.0 | 26.2 | 52.4 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 20.8 | 11.3 | 37.2 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 92.1 | 92.1 m3 |
| End of 1993: | 92.1 | 92.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 4.82E-02 Curies/m3 |
| Pu52 | 2.97E+01 Curies/m3 |
| U235 | 2.60E-07 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

F001
F002

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

| | | | |
|-------------------------|---|-------------|--|
| WASTE STREAM | MMWR ID <u>IN-W166</u> | STREAM NAME | Solidified Process Residues |
| | WIPP ID <u>IN-W166</u> | | |
| | Local ID <u>ID-EGG-112T-114</u> | DESCRIPTION | Cemented Sludges (TRU): Solid Inorganic Process Solution |
| MATRIX CODE | <u>3150</u> | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | | |
| Site Matrix Description | Solidified Inorganics Solid inorganic process solution waste consists of cemented inorganic particulates of sludge-like (not chemically precipitated) wastes from plutonium recovery operations. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 114 TRUCON CODE ID 114

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W166

CONTAINER: SWB overpack

Type/Size:

Container Mat: Steel

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 24

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 214.1 | 12.6 | 330.5 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 91.5 | 44.2 | 227.4 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 19.8 | 45.2 m3 |
| End of 1993: | 19.8 | 45.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.19E-02 Curies/m3 |
| Pu52 | 1.26E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008A
F001
F002
F003

Comments

24 in number stored is the number of SWBs that will result from overpacking 4 drums per SWB.

IN-W166 - 2

IN - 24

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W166

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.209m3

Liner Type:
Liner Material:

Number Stored: 245
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 489.0 | 28.8 | 754.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 208.9 | 101.0 | 519.2 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 51.0 | 51.0 m3 |
| End of 1993: | 51.0 | 51.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.71E-02 Curies/m3 |
| Pu52 | 2.88E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008A
F001
F002
F003

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

| | | | |
|---------------------------------|------------------------|---|--|
| WASTE STREAM | MWIR ID IN-W167 | STREAM NAME | Solidified Process Residues |
| WIPP ID IN-W167 | | DESCRIPTION | Cemented Sludges (TRU): Solid Organics |
| Local ID ID-EGG-112T-112 | | | |
| MATRIX CODE | 3150 | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Solidified Organics | |
| Site Matrix Description | | TRU solid organic waste consisting of cemented or absorbed organic liquids from production or laboratory processes. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 112

TRUCON CODE ID 112

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | |
|---|---|--|---|--|--|
| X | X | | X | | |
|---|---|--|---|--|--|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | |
|--|--|---|--|
| | | X | |
|--|--|---|--|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W167

CONTAINER: SWB overpack

Type/Size:

Container Mat: steel

Int. Vol/Ctr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 55

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 240.0 | 90.5 | 294.8 |
| Cellulose | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 176.6 | 65.2 | 212.6 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 45.9 | 104.5 m3 |
| End of 1993: | 45.9 | 104.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D022

F001

F003

Comments

55 in number stored is the number of SWBs that will result from overpacking 4 drums/SWB.

IN-W167 - 2

IN - 27

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W167

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 568
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 548.1 | 206.7 | 673.1 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 394.2 | 149.0 | 0.0 |
| Soils | 0.0 | 0.0 | 485.6 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 118.1 | 118.1 m3 |
| End of 1993: | 118.1 | 118.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 4.23E-02 Curies/m3 |
| Pu52 | 6.31E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D022
F001
F003

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | |
|---|-----------------|--|
| <u>WASTE STREAM</u> | | <u>STREAM NAME</u> |
| MWIR ID | IN-W169 | Predominantly Combustible Debris |
| WIPP ID | IN-W169 | |
| Local ID | ID-EGG-114T-330 | |
| <u>MATRIX CODE</u> | 5440 | <u>DESCRIPTION</u> |
| <u>SITE FINAL FORM IDC</u> | | Combustibles (TRU): Dry paper and rags |
| <u>Waste Matrix Code Group</u> | | |
| Site Matrix Description | | |
| <p>The waste stream is from Rocky Flats Plant and primarily consists of line- and nonline-generated dry combustible materials such as paper, rags, plastics, surgical gloves, cloth overalls and booties, cardboard, wood, wood filters frames, PE bottles, and laundry lint. Some combustibles may be damp or moist. Limited amounts of noncombustibles such as glass, concrete, cement, lead glovebox gloves, batteries, and metal scrap may also be present.</p> | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 116, 216C

TRUCON CODE ID 216C

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☐

Non-Defense TRU Waste ☐

Commercial TRU Waste ☐

Unknown ☐

Mixed TRU ☐

Non-Mixed TRU ☐

Suspect Mixed TRU ☐

Unknown ☐

Research and Devel. Waste ☐

Operations Waste ☐

Residues ☐

Decon and Decommissioning ☐

Environmental Restoration ☐

From Treatment of Waste ☐

Maintenance ☐

TSCA ☐

Asbestos ☐

PCBs ☐

Other ☐

N/A ☐

Unknown ☐

☐

☐

☐

☒

☐

IN-W169 - 1

IN - 29

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

IN-W169

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 20822
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 36.8 | 0.0 | 233.0 |
| Other Inorganic Materials | 27.2 | 0.0 | 196.0 |
| Cellulosics | 135.0 | 6.6 | 817.0 |
| Rubber | 57.2 | 0.0 | 330.0 |
| Plastics | 188.0 | 14.8 | 887.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 4331.0 | 4331.0 m ³ |
| End of 1993: | 4331.0 | 4331.0 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 3.79E-01 Curies/m ³ |
| Pu52 | 4.39E+00 Curies/m ³ |
| U235 | 2.59E-06 Curies/m ³ |
| U238 | 8.48E-11 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D008A
D008C
D022
D029
F001
F002
F003
F005
F005A

Comments

10% of this waste stream volume is classified as RH-TRU without current shielding. It is anticipated that the RH-TRU portion will be shipped as CH-TRU with internal shielding.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE AE

| | | | |
|--|-----------------|-------------|--|
| WASTE STREAM | MWIR ID IN-W170 | STREAM NAME | Predominantly Combustible Debris |
| WIPP ID IN-W170 | | | |
| Local ID ID-EGG-114T-120 | | DESCRIPTION | Combustibles (TRU): Decontamination/Decommissioning Waste Combustible Solids |
| MATRIX CODE 5440 | | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group Heterogeneous | | | |
| Site Matrix Description This waste is generated at Argonne National Laboratory. The waste is derived from decontamination and disposal of facilities and ancillary systems (e.g. gloveboxes). The composition of the waste is unknown. It is expected to contain some cadmium and lead, and may contain F-listed wastes. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE AE

| | | | | |
|---------|----------------------|------------------------|-----------------|---------------------|
| IN-W170 | CONTAINER: Drum | Container Matl: steel | Liner Type: | Number Stored: 2 |
| | Type/Size: 55-gallon | Int. Vol/Ctnr: 0.208m3 | Liner Material: | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 36.8 | 0.0 | 63.2 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 2.6 | 0.0 | 10.5 |
| Cellulosics | 213.2 | 61.6 | 357.9 |
| Rubber | 2.4 | 1.6 | 7.2 |
| Plastics | 21.3 | 4.7 | 57.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.4 m3 |
| End of 1993: | 0.4 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 1.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 5.14E+00 Curies/m3 |
| Pu239 | 2.06E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D004A
D006A
D008A
F003

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **IN** WASTE TYPE **MTRU** HANDLING **CH** GENERATOR SITE **AE**

| | | | | |
|----------------------------|-----------------|------------------------|--------------------|---|
| WASTE STREAM | MWIR ID | IN-W171 | STREAM NAME | Predominantly Combustible Debris |
| | WIPP ID | IN-W171 | DESCRIPTION | Combustibles (TRU): Research generated waste compatible and combustible solids. |
| MATRIX CODE | Local ID | ID-EGG-114T-110 | | |
| SITE FINAL FORM IDC | | 5440 | | |

Waste Matrix Code Group Heterogeneous
Site Matrix Description This waste is generated at Argonne National Laboratory-East. The waste is derived from research activities performed in a research environment. The waste includes soft plastics, cardboard, rags, paper, and cloth from various processes. The waste is packaged in 55-gallon drums or in standard waste boxes.

NO MIGRATION VARIANCE PETITION ASSIGNMENT **TRUCON CODE**

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE AE

| | | | | |
|---------|----------------------|------------------------|-----------------|---------------------|
| IN-W171 | CONTAINER: Drum | Container Mat: steel | Liner Type: | Number Stored: 17 |
| | Type/Size: 55-gallon | Int. Vol/Ctr: 0.208 m3 | Liner Material: | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average |
|------------------------------|---------|
| Iron-based Metals/Alloys | 4.8 |
| Aluminum-Based Metals/Alloys | 0.0 |
| Other Metals | 0.0 |
| Other Inorganic Materials | 4.8 |
| Cellulosics | 287.7 |
| Rubber | 3.3 |
| Plastics | 36.0 |
| Solidified, Inorganic matrix | 0.0 |
| Solidified, Organic matrix | 0.0 |
| Soils | 0.0 |
| Packaging Materials, Steel | 131.0 |
| Packaging Material, Plastic | 37.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Lower Limit | Upper Limit |
|--------------|-------------|-------------|
| End of 1992: | 0.0 | 14.4 |
| End of 1993: | 0.0 | 0.0 |
| 1994: | 0.0 | 0.0 |
| 1995: | 53.4 | 19.2 |
| 1996: | 1.4 | 432.7 |
| 1997: | 2.9 | 8.7 |
| 1998-2002: | 0.0 | 60.6 |
| 2003-2022: | 0.0 | 0.0 |

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 3.6 | 3.6 m3 |
| End of 1993: | 3.6 | 3.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 4.00E-01 Curies/m3 |
| Am243 | 1.71E-03 Curies/m3 |
| Pu239 | 5.13E+00 Curies/m3 |
| Pu241 | 5.19E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D004A
D006A
D008A
F003

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☒ TRU HANDLING ☒ CH GENERATOR SITE ☒ BT

| | | | |
|--|----------|-----------------|---|
| WASTE STREAM | MMWR ID | IN-W172 | STREAM NAME Predominantly Combustible Debris |
| | WIPP ID | IN-W172 | |
| | Local ID | ID-EGG-114T-010 | |
| MATRIX CODE | | 5440 | DESCRIPTION Combustibles (TRU): Combustibles |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group Site Matrix Description Heterogeneous This waste stream, generated at Bettis Atomic Power Laboratory, consists primarily of rags, gloves, plastic, paper, carbo-wax, filters, oil-contaminated absorbent (diatomaceous earth), and rubber. The waste stream may also contain noncombustible items. Levels of hazardous materials are unknown. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

☒ Defense TRU Waste
☐ Non-Defense TRU Waste
☐ Commercial TRU Waste
☐ Unknown

☒ Mixed TRU
☐ Non-Mixed TRU
☐ Suspect Mixed TRU
☐ Unknown

☒
☐
☐
☐

Research and Devel. Waste
 Operations Waste
 Residues
 Decon and Decommissioning
 Environmental Restoration
 From Treatment of Waste
 Maintenance

☒
☒
☐
☒
☐
☐

TSCA
 Asbestos
 PCBs
 Other
 N/A
 Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE BT

IN-W172 CONTAINER: Drum Type/Size: 55-gallon Container Mat: steel Int. Vol/Ctnr: 0.208m3 Liner Type: Liner Material: Number Stored: 796 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 2.9 | 0.0 | 7.2 |
| Cellulosics | 575.6 | 105.8 | 961.5 |
| Rubber | 55.2 | 55.2 | 163.5 |
| Plastics | 165.6 | 105.8 | 288.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 165.6 | 165.6 m3 |
| End of 1993: | 165.6 | 165.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

F001
F002

Comments

Typical isotopic composition is unknown for this waste stream.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☒ TRU ☐ CH ☐ MD

HANDLING ☐ CH

GENERATOR SITE MD

| | | | | |
|---------------------|----------|-----------------|-------------|---|
| WASTE STREAM | MWIR ID | IN-W174 | STREAM NAME | Absorbed Aqueous Liquids |
| | WIPP ID | IN-W174 | | |
| | Local ID | ID-EGG-112T-834 | DESCRIPTION | Cemented Sludges (TRU): High Level Acid |
| MATRIX CODE | | 3113 | | |
| SITE FINAL FORM IDC | | | | |

Waste Matrix Code Group Solidified Organics

Site Matrix Description

This waste comes from Mound Laboratory. It consists of acid liquids, mainly nitric, absorbed onto a clay called Florco.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒
 Non-Defense TRU Waste ☐
 Commercial TRU Waste ☐
 Unknown ☐

Mixed TRU ☐
 Non-Mixed TRU ☐
 Suspect Mixed TRU ☐
 Unknown ☐

Research and Devel. Waste ☒
 Operations Waste ☒
 Residues ☒
 Decon and Decommissioning ☒
 Environmental Restoration ☐
 From Treatment of Waste ☐
 Maintenance ☐

TSCA Asbestos ☐
 PCBs ☐
 Other ☐
 N/A ☒
 Unknown ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MD

IN-W174

CONTAINER: SWB overpack

Type/Size:

Container Mat: steel

Int. Vol/Cntr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 51

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 172.6 | 75.8 | 231.6 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 174.7 | 75.8 | 231.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 16.0 | 0.0 | 0.0 |

RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 42.3 | 98.0 m3 |
| End of 1993: | 42.3 | 98.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D001C

D002A

Comments

51 in number stored is the number of SWBs that will result from overpacking 4 drums/SWB.

IN-W174 - 2

IN - 38

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE MD

IN-W174 CONTAINER: Drum Type/Size: 55-gallon Container Mat: steel Int. Vol/Ctnr: 0.208m3 Liner Type: Liner Material: Number Stored: 523 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 394.2 | 173.1 | 528.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 399.0 | 173.1 | 528.8 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 108.8 | 108.8 m3 |
| End of 1993: | 108.8 | 108.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.52E+01 Curies/m3 |
| Pu239 | 1.02E-02 Curies/m3 |
| Pu240 | 2.02E-02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D001C
D002A

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ MD

| | | | |
|-------------------------|--|-------------|--|
| WASTE STREAM | MWIR ID IN-W177 | STREAM NAME | Solidified Process Residues |
| | WIPP ID IN-W177 | | |
| | Local ID ID-EGG-112T-835 | DESCRIPTION | Cemented Sludges (TRU): High Level Caustic |
| MATRIX CODE | 3150 | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | Solidified Inorganics | | |
| Site Matrix Description | This waste comes from Mound Laboratory. It consists of caustic waste and neutralized waste liquids, adsorbed onto a clay (Florco). | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☐ X
 Non-Defense TRU Waste ☐
 Commercial TRU Waste ☐
 Unknown ☐

Mixed TRU ☐
 Non-Mixed TRU ☐
 Suspect Mixed TRU ☐
 Unknown ☐

☐ X ☐ ☐ ☐

Research and Devel. Waste
 Operations Waste
 Residues
 Decon and Decommissioning
 Environmental Restoration
 From Treatment of Waste
 Maintenance

☐ X ☐ X ☐ ☐ ☐ ☐

TSCA Asbestos
 PCBs
 Other
 N/A
 Unknown

☐ ☐ ☐ ☐ X ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MD

| | | | | |
|------------|-------------------------|----------------------|---------------------|-------------------|
| IN-W177 | CONTAINER: SWB overpack | Container Mat: steel | Liner Type: | Number Stored: 60 |
| Type/Size: | Int. Vol/Ctnr: 1.9m3 | Liner Material: | Number Projected: 0 | |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 172.6 | 75.8 | 231.6 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 174.7 | 75.8 | 231.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 49.3 | 112.6 m3 |
| End of 1993: | 49.3 | 112.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 7.59E+00 Curies/m3 |
| Pu239 | 2.22E-03 Curies/m3 |
| Pu52 | 1.69E-04 Curies/m3 |
| Pu83 | 2.84E-02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002B

Comments

60 in number stored is the number of SWBs that will result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ MD

IN-W177 CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 610
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 394.2 | 173.1 | 528.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 399.0 | 173.1 | 528.8 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 126.8 | 126.8 m ³ |
| End of 1993: | 126.8 | 126.8 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu238 | 1.73E+01 Curies/m ³ |
| Pu239 | 5.08E-03 Curies/m ³ |
| Pu240 | 3.85E-04 Curies/m ³ |
| Pu241 | 6.49E-02 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D002B

IN-W177 - 3

IN - 42

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **IN** WASTE TYPE **MTRU** HANDLING **CH** GENERATOR SITE **MD**

| | | |
|---|---------------------------------|---|
| WASTE STREAM | MWIR ID IN-W179 | STREAM NAME Solidified Process Residues |
| | WIPP ID IN-W179 | |
| | Local ID ID-EGG-112T-836 | DESCRIPTION Cemented Sludges (TRU): High Level Sludge/Cement |
| MATRIX CODE | 3150 | |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group Solidified Inorganics Site Matrix Description This waste comes from Mound Laboratory. The waste consists of shower water, decontamination water, cooling water, and some acids and caustics which have been solidified in portland cement. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT **TRUCON CODE**

FINAL WASTE FORM DESCRIPTORS:

| | | | |
|--|---|---|--|
| <input checked="" type="checkbox"/> Defense TRU Waste <input type="checkbox"/> Non-Defense TRU Waste <input type="checkbox"/> Commercial TRU Waste <input type="checkbox"/> Unknown | <input checked="" type="checkbox"/> Mixed TRU <input type="checkbox"/> Non-Mixed TRU <input type="checkbox"/> Suspect Mixed TRU <input type="checkbox"/> Unknown | <input checked="" type="checkbox"/> Research and Devel. Waste <input checked="" type="checkbox"/> Operations Waste <input type="checkbox"/> Residues <input checked="" type="checkbox"/> Decon and Decommissioning <input type="checkbox"/> Environmental Restoration <input type="checkbox"/> From Treatment of Waste <input type="checkbox"/> Maintenance | <input checked="" type="checkbox"/> TSCA <input checked="" type="checkbox"/> Asbestos <input type="checkbox"/> PCBs <input type="checkbox"/> Other <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Unknown |
|--|---|---|--|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MD

| | | | | |
|------------|-------------------------|----------------------|---------------------|------------------|
| IN-W179 | CONTAINER: SWB overpack | Container Mat: steel | Liner Type: | Number Stored: 2 |
| Type/Size: | Int. Vol/Ctnr: 1.9m3 | Liner Material: | Number Projected: 0 | |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 172.6 | 75.8 | 231.6 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 174.7 | 75.8 | 231.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

Comments

2 in number stored is the number of SWBs that will result from overpacking 4 drums/SWB.

TYPICAL TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.5 | 3.8 m3 |
| End of 1993: | 1.5 | 3.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 2.95E+00 Curies/m3 |
| Pu83 | 8.99E-02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002B
D006A
D007A
D008A
D009A
D010A
D011A
F001
F003
P015

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE MD

IN-W179 CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 19
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 394.2 | 173.1 | 528.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 399.0 | 173.1 | 528.8 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 4.0 | 4.0 m ³ |
| End of 1993: | 4.0 | 4.0 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu238 | 6.73E+00 Curies/m ³ |
| Pu83 | 2.05E-01 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D002B
D006A
D007A
D008A
D009A
D010A
D011A
F001
F003
P015

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ CH ☐ RF GENERATOR SITE

| | | | | |
|---------------------|----------|-----------------|-------------|--|
| WASTE STREAM | MMWR ID | IN-W181 | STREAM NAME | Solidified Process Residues |
| | WIPP ID | IN-W181 | | |
| | Local ID | ID-EGG-112T-978 | DESCRIPTION | Cemented Sludges (TRU): Laundry Sludge |
| MATRIX CODE | | 3150 | | |
| SITE FINAL FORM IDC | | | | |

Waste Matrix Code Group

Site Matrix Description

Solidified Inorganics
This waste is from Rocky Flats. The waste consists of sludge from laundry operations that have been cemented in portland. The cement is described as a poor grade.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 211A

TRUCON CODE ID 211A

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W181 CONTAINER: Drum Type/Size: 55-gallon Container Matl: steel Int. Vol/Ctnr: 0.208m3 Liner Type: Liner Material: Number Stored: 46 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 3.4 | 3.4 | 3.4 |
| Cellulosics | 34.8 | 0.0 | 85.2 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 9.4 | 8.7 | 9.8 |
| Solidified, Organic matrix | 772.0 | 536.0 | 947.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 9.5 | 9.5 m3 |
| End of 1993: | 9.5 | 9.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 2.50E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

- D002B
- D006A
- D007A
- D008A
- D009A
- F001
- F002
- F003
- P015

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|-------------------------|----------|-----------------|--|---------------------------------------|
| WASTE STREAM | MWIR ID | IN-W186 | STREAM NAME | Predominantly Combustible Debris |
| | WIPP ID | IN-W186 | | |
| | Local ID | ID-EGG-114T-116 | DESCRIPTION | Combustibles (TRU): Combustible Waste |
| MATRIX CODE | | 5440 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Combustible waste consists of cellulosic, plastic or cloth waste from various processes. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 116 TRUCON CODE ID 116

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W186

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 12958
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 2.9 | 0.0 | 7.2 |
| Cellulosics | 575.6 | 105.8 | 961.5 |
| Rubber | 55.2 | 55.2 | 163.5 |
| Plastics | 165.6 | 105.8 | 288.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 2695.1 | 2695.1 m ³ |
| End of 1993: | 2695.1 | 2695.1 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 6.68E-02 Curies/m ³ |
| Pu52 | 4.51E+00 Curies/m ³ |
| U235 | 6.50E-07 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D008A
F001
F002

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|---|-----------------|------------------------|--------------------|--|
| <u>WASTE STREAM</u> | <u>MWIR ID</u> | <u>IN-W188</u> | <u>STREAM NAME</u> | <u>Solidified Process Residues</u> |
| | <u>WIPP ID</u> | <u>IN-W188</u> | | |
| | <u>Local ID</u> | <u>ID-EGG-112T-976</u> | <u>DESCRIPTION</u> | <u>Cemented Sludges (TRU): Building 776 Process Sludge</u> |
| <u>MATRIX CODE</u> | | <u>3150</u> | | |
| <u>SITE FINAL FORM IDC</u> | | | | |
| <u>Waste Matrix Code Group</u> <u>Site Matrix Description</u> <u>Solidified Inorganics</u> This waste is from Rocky Flats. The waste consists of sludge from floor drains in a Pu process facility that have been cemented in portland. The cement is described as poor grade. | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 211A TRUCON CODE ID 211A

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|---|---|--|---|---|--|---|---|
| Defense TRU Waste Non-Defense TRU Waste Commercial TRU Waste Unknown | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Mixed TRU Non-Mixed TRU Suspect Mixed TRU Unknown | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Research and Devel. Waste Operations Waste Residues Decon and Decommissioning Environmental Restoration From Treatment of Waste Maintenance | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | TSCA Asbestos PCBs Other N/A Unknown | <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> |
|---|---|--|---|---|--|---|---|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W188

CONTAINER: SWB overpack

Type/Size:

Container Matl: steel

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored:

Number Projected:

1

0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 1.5 | 1.5 | 1.5 |
| Cellulosics | 15.2 | 0.0 | 37.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.1 | 3.8 | 4.3 |
| Solidified, Organic matrix | 338.0 | 235.0 | 415.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.3 | 1.9 m3 |
| End of 1993: | 0.3 | 1.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 3.96E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002B
D006A
D007A
D008A
D009A
D022
D028
F001
F002
F003
P015

Comments

1 in number stored is the number of SWBs that will result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

IN-W188 CONTAINER: Drum
Type/Size: 55-gallon
Container Mat: steel
Int. Vol/Ctnr: 0.208 m³
Liner Type:
Liner Material:
Number Stored: 4
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 3.4 | 3.4 | 3.4 |
| Other Inorganic Materials | 34.8 | 0.0 | 85.2 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 9.4 | 8.7 | 9.8 |
| Solidified, Inorganic matrix | 772.0 | 536.0 | 947.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 0.8 | 0.8 m ³ |
| End of 1993: | 0.8 | 0.8 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu52 | 9.04E+00 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D002B
D006A
D007A
D008A
D009A
D022
D028
F001
F002
F003
P015

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

| | | | |
|----------------------------|-----------------|--|--|
| WASTE STREAM | | STREAM NAME | |
| MWIR ID | IN-W189 | Predominantly Combustible Debris | |
| WIPP ID | IN-W189 | | |
| Local ID | ID-EGG-109T-464 | Benelex, Plexiglass (TRU): Benelex and Plexiglass | |
| MATRIX CODE | | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Heterogeneous | |
| Site Matrix Description | | This waste, generated at Rocky Flats Plant, contains mainly Benelex which is a dense, laminated, ignocellulose hardboard made from wood chips and particles (masonite corp. type 402). The benelex is generally 2 inches thick. Some of the Benelex has lead shielding attached to it. Metal hinges, and angle iron strongbacks are also present. Plexiglass is the other major constituent in the waste. The plexiglass thickness ranges from 2 to 4 inches. Both the Benelex and the Plexiglass are combustible. | |

TRUCON CODE ID 221A

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 221A

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

TSCA Asbestos
PCBs
Other
N/A
Unknown

2/28/95

IN - 53

IN-W189 - 1

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W189

CONTAINER: SWB overpack

Type/Size:

Container Mat: steel

Int. Vol/Ctnr:

1.9m3

Liner Type:

Liner Material:

Number Stored:

2

Number Projected:

0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.8 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 3.4 | 0.0 | 0.0 |
| Other Inorganic Materials | 48.6 | 0.0 | 0.0 |
| Cellulosics | 17.2 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 88.9 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 16.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.7 | 3.8 m3 |
| End of 1993: | 1.7 | 3.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 2.64E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008C

F001

Comments

2 in number stored is the number of SWBs that will result from overpacking 4 drums per SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W189

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 21
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average |
|------------------------------|---------|
| Iron-based Metals/Alloys | 1.9 |
| Aluminum-Based Metals/Alloys | 0.0 |
| Other Metals | 7.7 |
| Other Inorganic Materials | 111.0 |
| Cellulosics | 39.2 |
| Rubber | 0.0 |
| Plastics | 203.0 |
| Solidified, Inorganic matrix | 0.0 |
| Solidified, Organic matrix | 0.0 |
| Soils | 0.0 |
| Packaging Materials, Steel | 131.0 |
| Packaging Material, Plastic | 37.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Lower Limit | Upper Limit |
|--------------|-------------|-------------|
| End of 1992: | 0.0 | 0.0 |
| End of 1993: | 0.0 | 0.0 |
| 1994: | 0.0 | 0.0 |
| 1995: | 0.0 | 0.0 |
| 1996: | 0.0 | 0.0 |
| 1997: | 0.0 | 0.0 |
| 1998-2002: | 0.0 | 0.0 |
| 2003-2022: | 0.0 | 0.0 |

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 4.4 | 4.4 m ³ |
| End of 1993: | 4.4 | 4.4 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu52 | 6.03E+00 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D008C
F001

IN-W189 - 3

IN - 55

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ CH ☐ RF

HANDLING ☐ CH

GENERATOR SITE ☐ RF

| | | | | |
|---------------------|----------|-----------------|-------------|--|
| WASTE STREAM | MWIR ID | IN-W197 | STREAM NAME | Predominantly Combustible Debris |
| | WIPP ID | IN-W197 | | |
| | Local ID | ID-EGG-114T-336 | DESCRIPTION | Combustibles (TRU): Moist paper and rags |
| MATRIX CODE | | 5440 | | |
| SITE FINAL FORM IDC | | | | |

Waste Matrix Code Group

Site Matrix Description

Heterogeneous
The waste stream is from the Rocky Flats Plant and primarily consists of damp or wet line- and nonline-generated dry combustible materials such as paper, rags, plastics, surgical gloves, canvas, cardboard, wood, PE bottles, and rubber. Some combustibles may be damp or moist. Moisture content may range from damp to wet, and may include water, soaps, nitric acid, or caustic solutions. Limited amounts of noncombustibles such as glass, concrete, cement, leaded glovebox gloves, and metal scrap may also be present. These wastes are mostly from decontamination and cleanup work, and may be from any plutonium area.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 116; 216A

TRUCON CODE ID 216A

FINAL WASTE FORM DESCRIPTORS:

| | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE IRF

IN-W197

CONTAINER: SWB overpack

Type/Size:

Container Mat: steel

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 46

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.3 | 0.0 | 1.9 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.9 | 0.0 | 5.3 |
| Other Inorganic Materials | 8.0 | 0.0 | 30.5 |
| Cellulosics | 20.8 | 0.7 | 66.1 |
| Rubber | 4.0 | 0.0 | 26.1 |
| Plastics | 31.8 | 5.7 | 110.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 38.3 | 87.2 m3 |
| End of 1993: | 38.3 | 87.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.61E-01 Curies/m3 |
| Pu52 | 2.20E+00 Curies/m3 |
| U235 | 4.26E-07 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D001C
D002B
D008A
D008C
D022
F001
F002
F003
F005A

Comments

46 in number stored is the number of SWBs that will result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

WASTE TYPE **TRU** HANDLING **CH** GENERATOR SITE **RF**

SITE NAME **IN**

IN-W197
CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **Steel**
Int. Vol/Ctr: **0.208m3**

Liner Type:
Liner Material:

Number Stored: **2623**
Number Projected: **0**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.7 | 0.0 | 4.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 2.0 | 0.0 | 12.2 |
| Other Inorganic Materials | 18.3 | 0.0 | 69.7 |
| Cellulosics | 47.4 | 1.6 | 151.0 |
| Rubber | 9.1 | 0.0 | 59.7 |
| Plastics | 72.6 | 13.1 | 253.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 545.5 | 545.5 m3 |
| End of 1993: | 545.5 | 545.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 8.25E-01 Curies/m3 |
| Pu52 | 5.02E+00 Curies/m3 |
| U235 | 9.72E-07 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D001C
D002B
D008A
D008C
D022
F001
F002
F003
F005A

Comments

11% of this waste stream volume is classified as RH-TRU without current shielding. It is anticipated that the RH-TRU portion will be shipped as CH-TRU with internal shielding.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | |
|---------------------|--------------------------|--|
| WASTE STREAM | MWIR ID IN-W198 | STREAM NAME Plastic/Rubber Debris |
| | WIPP ID IN-W198 | |
| | Local ID ID-EGG-114T-337 | |
| MATRIX CODE | 5310 | DESCRIPTION Combustibles (TRU): Plastics, Teflon, Wash and PVC |
| SITE FINAL FORM IDC | | |

Waste Matrix Code Group

Site Matrix Description

Combustible
The waste stream is from the Rocky Flats Plant and consists of various types of plastics such as PE, Polyvinyl chloride (PVC), teflon (TFE), and nonleaded rubber items. The waste may be bags, vials, bottles, sheeting, and surgical gloves. Some other combustible wastes such as respirator facemasks and paper may be included. Some small amounts of noncombustible wastes may also be present.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 116; 216C

TRUCON CODE ID 216C

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

IN-W198 - 1

IN - 59

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **IN** WASTE TYPE **MTRU** HANDLING **CH** GENERATOR SITE **RF**

IN-W198 CONTAINER: SWB overpack
Type/Size: _____

Container Mat: steel
Int. Vol/Ctnr: 1.9m3

Liner Type: _____
Liner Material: _____

Number Stored: 34
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.1 | 0.0 | 0.5 |
| Other Inorganic Materials | 9.6 | 3.3 | 21.5 |
| Cellulosics | 9.4 | 0.0 | 61.7 |
| Rubber | 31.2 | 0.0 | 138.8 |
| Plastics | 24.8 | 0.0 | 44.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 28.0 | 63.9 m3 |
| End of 1993: | 28.0 | 63.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 7.12E-01 Curies/m3 |
| Np237 | 9.99E-06 Curies/m3 |
| Pu242 | 1.59E-05 Curies/m3 |
| Pu52 | 2.86E+00 Curies/m3 |
| U235 | 3.94E-08 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008A
D008C
D022
D029
F001
F002
F003
F005A

Comments

34 in number stored is the number of SWBs that will result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

IN-W198 CONTAINER: Drum Container Mat: steel Liner Type: Number Stored: 480
 Type/Size: 55-gallon Int. Vol/Ctnr: 0.208 m³ Liner Material: Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.2 | 0.0 | 1.1 |
| Other Inorganic Materials | 21.9 | 7.4 | 49.2 |
| Cellulosics | 21.5 | 0.0 | 141.0 |
| Rubber | 71.3 | 0.0 | 317.0 |
| Plastics | 56.6 | 0.0 | 102.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 99.9 | 99.9 m ³ |
| End of 1993: | 99.9 | 99.9 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 1.63E+00 Curies/m ³ |
| Np237 | 2.28E-05 Curies/m ³ |
| Pu242 | 3.63E-05 Curies/m ³ |
| Pu52 | 6.52E+00 Curies/m ³ |
| U235 | 8.99E-08 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D008A
 D008C
 D022
 D029
 F001
 F002
 F003
 F005A

Comments

13% of this waste stream volume is classified as RH-TRU without current shielding. It is anticipated that the RH-TRU portion will be shipped as CH-TRU with internal shielding.

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IN - 61

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **IN** WASTE TYPE **MTRU** HANDLING **CH** GENERATOR SITE **RF**

| | | |
|----------------------------|---------------------------------|---|
| WASTE STREAM | MMWR ID IN-W202 | STREAM NAME Wood Debris |
| | WIPP ID IN-W202 | |
| | Local ID ID-EGG-114T-970 | |
| MATRIX CODE | 5320 | DESCRIPTION Combustibles (TRU): Wood |
| SITE FINAL FORM IDC | | |

Waste Matrix Code Group
Site Matrix Description
 Combustible
 This waste stream is from the Rocky Flats Plant and primarily consists of wood in the form of lumber, plywood, filter frames, and possibly ladders. Some of the items such as plastic sheeting, Kimwipes, and other combustibles are also present. Plastic sheeting may have some paint coatings. Limited noncombustibles such as nails and sheetrock may also be included.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 216A **TRUCON CODE** ID 216A

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|---|--|--|--|---|---|---|---|
| Defense TRU Waste Non-Defense TRU Waste Commercial TRU Waste Unknown | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Mixed TRU Non-Mixed TRU Suspect Mixed TRU Unknown | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Research and Devel. Waste Operations Waste Residues Decon and Decommissioning Environmental Restoration From Treatment of Waste Maintenance | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | TSCA Asbestos PCBs Other N/A Unknown | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> |
|---|--|--|--|---|---|---|---|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W202

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: Steel

Int. Vol/Ctnr: 0.208/m3

Liner Type:

Liner Material:

Number Stored: 529

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 20.7 | 16.3 | 24.9 |
| Cellulosics | 186.0 | 170.0 | 202.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 22.6 | 14.9 | 8.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 109.9 | 109.9 m3 |
| End of 1993: | 109.9 | 109.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 1.79E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008A
F001
F002
F003

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☒ TRU ☐ CH ☐ HANDLING ☐ GENERATOR SITE ☐ MD

| | | | |
|--------------------------------|-----------------|---|--|
| WASTE STREAM | | STREAM NAME | |
| MWIR ID | IN-W203 | Predominantly Combustible Debris | |
| WIPP ID | IN-W203 | | |
| Local ID | ID-EGG-114T-826 | | |
| MATRIX CODE | | DESCRIPTION | |
| 5440 | | Combustibles (TRU): Combustible Equipment Boxes or Floor Sweeping and Rust | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Waste Matrix Description | |
| Heterogeneous | | This waste stream, generated at Mound Laboratory, includes two different types of waste depending on when the waste was generated. Prior to 1980, this content code was used for glove box floor sweepings and rust. The actual amount of floor sweeping is small. After 1981, this content code is used for large combustible waste items such as plastic tanks, plexiglass shielding and windows, wood, and fiberglass conveyor glove box sections. These types of large combustible wastes were included in content code 824 prior to 1980. Limited amounts of small combustibles such as shoe covers and surgical gloves are also included. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **IN** WASTE TYPE **TRU** HANDLING **CH** GENERATOR SITE **MD**

| | | | | |
|---------|-----------------------------|--------------------------------|-------------------------|----------------------------|
| IN-W203 | CONTAINER: Drum | Container Mat: steel | Liner Type: | Number Stored: 346 |
| | Type/Size: 55-gallon | Int. Vol/Ctnr: 0.208 m3 | Liner Material: | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.3 | 0.0 | 17.9 |
| Other Inorganic Materials | 11.1 | 0.0 | 17.3 |
| Cellulosics | 63.0 | 63.0 | 706.7 |
| Rubber | 19.3 | 19.3 | 194.4 |
| Plastics | 191.8 | 158.7 | 706.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 71.9 | 71.9 m3 |
| End of 1993: | 71.9 | 71.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.69E-01 Curies/m3 |
| Pu238 | 7.64E-01 Curies/m3 |
| Pu239 | 2.19E-02 Curies/m3 |
| Pu240 | 1.07E-02 Curies/m3 |
| Pu83 | 1.42E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D009A
D009D

Comments

These drums have been repacked from boxes.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE MID

| | | | |
|-------------------------|--|-------------|---|
| WASTE STREAM | MWIR ID IN-W204 | STREAM NAME | Predominately Combustible Debris |
| | WIPP ID IN-W204 | | |
| | Local ID ID-EGG-114T-827 | DESCRIPTION | Combustibles (TRU): Combustible Equipment Drums |
| MATRIX CODE | 5440 | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | Heterogeneous | | |
| Site Matrix Description | This waste stream is smaller combustible items from Mound Laboratory which fit into drums. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MD

| | | | | |
|---------|-----------------|----------------------|-----------------|---------------------|
| IN-W204 | CONTAINER: Drum | Container Mat: steel | Liner Type: | Number Stored: 1 |
| | Type/Size: | Int. Vol/Ctnr: 1.9m3 | Liner Material: | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.1 | 0.0 | 7.8 |
| Other Inorganic Materials | 4.9 | 0.0 | 7.6 |
| Cellulosics | 27.6 | 27.6 | 309.5 |
| Rubber | 8.4 | 8.4 | 85.1 |
| Plastics | 84.0 | 69.5 | 309.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 201.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.5 | 1.9 m3 |
| End of 1993: | 0.5 | 1.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.36E+00 Curies/m3 |
| Pu52 | 6.89E-02 Curies/m3 |
| Pu83 | 4.18E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008A
D009A
D009D

Comments

1 in number stored is the number of SWBs that will result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE MD

| | | | | |
|---------|----------------------|-------------------------------------|-----------------|---------------------|
| IN-W204 | CONTAINER: Drum | Container Mat: Steel | Liner Type: | Number Stored: 6 |
| | Type/Size: 55-gallon | Int. Vol/Ctnr: 0.208 m ³ | Liner Material: | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.3 | 0.0 | 17.9 |
| Other Inorganic Materials | 11.1 | 0.0 | 17.3 |
| Cellulosics | 63.0 | 63.0 | 706.7 |
| Rubber | 19.3 | 19.3 | 194.4 |
| Plastics | 191.8 | 158.7 | 706.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 1.3 | 1.3 m ³ |
| End of 1993: | 1.3 | 1.3 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 7.68E+00 Curies/m ³ |
| Pu52 | 6.89E+02 Curies/m ³ |
| Pu83 | 9.55E+00 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D008A
D009A
D009D

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | | |
|--|--|----------|-----------------|-------------|---|
| WASTE STREAM | | MWIR ID | IN-W205 | STREAM NAME | Combustible Debris |
| | | WIPP ID | IN-W205 | | |
| | | Local ID | ID-EGG-114T-900 | DESCRIPTION | Combustibles (TRU): Low Specific Activity Plastics, Paper, etc. |
| MATRIX CODE | | | 5300 | | |
| SITE FINAL FORM IDC | | | | | |
| <p>Waste Matrix Code Group</p> <p>Site Matrix Description</p> <p>Combustible</p> <p>This waste stream from the Rocky Flats Plant primarily consists of line- and nonline-generated combustible materials such as plastics, paper, empty PE bottles, booties, paper, plastic sheeting, and surgical gloves. The waste may be dry or damp. Limited amounts of noncombustibles may also be present.</p> | | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 216B

TRUCON CODE ID 216B

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒

Non-Defense TRU Waste ☐

Commercial TRU Waste ☐

Unknown ☐

Mixed TRU ☐

Non-Mixed TRU ☐

Suspect Mixed TRU ☐

Unknown ☐

☒

Research and Devel. Waste

Operations Waste

Residues

Decon and Decommissioning

Environmental Restoration

From Treatment of Waste

Maintenance

☒

TSCA

Asbestos

PCBs

Other

N/A

Unknown

☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|------------|-------------------------|----------------------|-------------|-------------------|
| IN-W205 | CONTAINER: SWB overpack | Container Mat: steel | Liner Type: | Number Stored: |
| Type/Size: | Int. Vol/Ctnr: 1.9m3 | Liner Material: | | Number Projected: |
| | | | | 0 |
| | | | | 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 16.6 | 1.9 | 43.2 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 40.2 | 30.7 | 52.1 |
| Cellulosics | 57.4 | 27.9 | 109.9 |
| Rubber | 10.1 | 3.8 | 15.9 |
| Plastics | 7.9 | 13.8 | 21.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.6 m3 |
| End of 1993: | 0.2 | 0.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 1.72E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008A
F001
F002
F003

Comments

.25 in number stored is the number of SWBs that will result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

IN-W205 CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208 m³

Liner Type: ☐
Liner Material: ☐

Number Stored: 3
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 37.8 | 4.4 | 98.6 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 91.9 | 70.1 | 119.0 |
| Cellulosics | 131.0 | 63.6 | 251.0 |
| Rubber | 23.0 | 8.7 | 36.3 |
| Plastics | 18.0 | 31.5 | 49.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 0.6 | 0.6 m ³ |
| End of 1993: | 0.6 | 0.6 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu52 | 3.95E-01 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D008A
F001
F002
F003

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE MD

| | | | |
|----------------------------|-----------------|---|--|
| <u>WASTE STREAM</u> | | <u>STREAM NAME</u> | |
| WIPR ID | IN-W214 | Composite Filters | |
| WIPP ID | IN-W214 | | |
| Local ID | ID-EGG-118T-813 | <u>DESCRIPTION</u> | |
| | 5410 | Filters (TRU): Glass Filters and Fiberglass | |
| <u>MATRIX CODE</u> | | | |
| <u>SITE FINAL FORM IDC</u> | | | |
| Waste Matrix Code Group | | | |
| Site Matrix Description | | This waste stream generated at the Mound Laboratory, consists primarily of spun glass filters and fiberglass glovebox prefilters. The waste may include limited amounts of other noncombustibles. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input checked="" type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE MD

IN-W214 CONTAINER: SWB overpack Type/Size: Container Mat: steel Liner Type: Number Stored: 1
 Int. Vol/Ctnr: 1.9 m3 Liner Material: Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 85.3 | 10.5 | 128.4 |
| Cellulosics | 2.1 | 0.5 | 4.2 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.4 m3 |
| End of 1993: | 0.2 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D001C
 D002B
 D009A
 D009D

Comments

1 In number stored is the number of SWBs that result from overpacking 4 drums/SWB.

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 3.36E+02 Curies/m3 |
| Pu239 | 2.99E+00 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ MD

IN-W214 CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctr: 0.208 m3

Liner Type: ☐
Liner Material: ☐

Number Stored: 3
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 194.7 | 24.0 | 293.3 |
| Cellulosics | 4.8 | 1.2 | 9.6 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.5 | 0.5 m3 |
| End of 1993: | 0.5 | 0.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 7.66E+02 Curies/m3 |
| Pu239 | 6.83E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D001C
D002B
D009A
D009D

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☒ TRU HANDLING ☒ CH GENERATOR SITE ☒ RF

| | | | | |
|--|----------|-----------------|-------------|--|
| WASTE STREAM | MWIR ID | IN-W216 | STREAM NAME | Solidified Process Residues |
| | WIPP ID | IN-W216 | | |
| | Local ID | ID-EGG-102T-001 | DESCRIPTION | Uncemented inorganic sludge (TRU): First stage sludge. |
| MATRIX CODE | | 3150 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group Site Matrix Description Solidified Inorganics The waste stream generated at Rocky Flats Plant, consists of first and second stage sludges. Sludges were combined starting in 1979 to reduce the radiation levels of first stage sludge. Portland cement was added to absorb free liquids. | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 211A

TRUCON CODE ID 211A

FINAL WASTE FORM DESCRIPTORS:

☒ Defense TRU Waste
☐ Non-Defense TRU Waste
☐ Commercial TRU Waste
☐ Unknown

☒ Mixed TRU
☐ Non-Mixed TRU
☐ Suspect Mixed TRU
☐ Unknown

☒ Research and Devel. Waste
☒ Operations Waste
☐ Residues
☐ Decon and Decommissioning
☐ Environmental Restoration
☐ From Treatment of Waste
☐ Maintenance

☒ TSCA
☒ Asbestos
☐ PCBs
☐ Other
☐ N/A
☐ Unknown

☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

| | | | | |
|------------|-------------------------|----------------------|---------------------|--------------------|
| IN-W216 | CONTAINER: SWB overpack | Container Mat: steel | Liner Type: | Number Stored: 639 |
| Type/Size: | Int. Vol/Ctnr: 1.9m3 | Liner Material: | Number Projected: 0 | |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 1.5 | 1.5 | 1.5 |
| Other Inorganic Materials | 15.2 | 0.0 | 37.3 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 4.1 | 3.8 | 4.3 |
| Solidified, Inorganic matrix | 338.0 | 235.0 | 415.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

Comments

639 in number of stored is the number of SWBs that will result from overpacking 4 drums per SWB.

TYPICAL TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 532.0 | 1214.0 m3 |
| End of 1993: | 532.0 | 1214.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1998: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.14E+01 Curies/m3 |
| Pu52 | 3.71E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002B
D005A
D006A
D007A
D008A
D009A
D011A
D022
D028
F001
F002
F003
P015

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W216

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208m³

Liner Type:

Liner Material:

Number Stored: 6571

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 3.4 | 3.4 | 3.4 |
| Other Inorganic Materials | 34.8 | 0.0 | 85.2 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 9.4 | 8.7 | 9.8 |
| Solidified, Inorganic matrix | 772.0 | 536.0 | 947.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 1367.0 | 1367.0 m ³ |
| End of 1993: | 1367.0 | 1367.0 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D002B
D005A
D006A
D007A
D008A
D009A
D011A
D022
D028
F001
F002
F003
P015

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 2.60E+01 Curies/m ³ |
| Pu52 | 8.47E+00 Curies/m ³ |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH GENERATOR SITE ☐ RF, AE

| | | | | |
|---|----------|-----------------|-------------|--|
| WASTE STREAM | MWIR ID | IN-W220 | STREAM NAME | Solidified Process Residues |
| | WIPP ID | IN-W220 | | |
| | Local ID | ID-EGG-102T-111 | DESCRIPTION | Uncemented inorganic sludge (TRU): Research generated waste noncompaction solids or solids wet sludge. |
| MATRIX CODE | | 3150 | | |
| SITE FINAL FORM IDC | | | | |
| <p>Waste Matrix Code Group</p> <p>Site Matrix Description</p> <p>Solidified inorganics</p> <p>This waste includes waste generated at ANL-East and solid wet sludge from the Rocky Flats Plant. The ANL-E waste is derived from research activities performed in a laboratory environment. The waste includes concrete and laboratory apparatus. The RFP solid wet sludge is cemented or dewatered sludge precipitated from aqueous waste treatment processes. Soils that are not contaminated with or by chemicals are also included.</p> | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 111

TRUCON CODE ID 111

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒ Mixed TRU

Non-Defense TRU Waste ☐ Non-Mixed TRU

Commercial TRU Waste ☐ Suspect Mixed TRU

Unknown ☐ Unknown

☒ ☐ ☐ ☐

Research and Devel. Waste

Operations Waste

Residues

Decon and Decommissioning

Environmental Restoration

From Treatment of Waste

Maintenance

☒ ☒ ☐ ☒ ☐ ☐

TSCA Asbestos

PCBs

Other

N/A

Unknown

☐ ☐ ☐ ☒ ☐

Footnotes

ID 111 only applies to the RF waste.

IN-W220 - 1

IN - 78

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF, AE ☐

Number Stored:
Number Projected:

Container Mat:
Int. Vol/Ctnr:
Liner Type:
Liner Material:

CONTAINER:
Type/Size:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 1.5 | 1.5 | 1.5 |
| Other Inorganic Materials | 15.2 | 0.0 | 37.3 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 4.1 | 3.8 | 4.4 |
| Solidified, Inorganic matrix | 338.0 | 235.0 | 415.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 156.0 | 355.0 m3 |
| End of 1993: | 156.0 | 355.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.70E+00 Curies/m3 |
| Pu239 | 2.01E-02 Curies/m3 |
| Pu240 | 2.71E-03 Curies/m3 |
| Pu241 | 2.37E-03 Curies/m3 |
| Pu52 | 1.98E+00 Curies/m3 |
| U233 | 1.86E-04 Curies/m3 |
| U235 | 1.69E-08 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002B
D004A
D005A
D006A
D007A
D008A
D009A
F001
F002
F003
F005A
P015

Comments

187 in number stored is the number of SWBs that will result from overpacking 4 drums per SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF, AE

IN-W220 CONTAINER: Drum Type/Size: 55-gallon

Container Mat: Steel Int. Vol/Ctnr: 0.208 m3

Liner Type: _____

Liner Material: _____

Number Stored: 1916

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 3.4 | 3.4 | 3.4 |
| Other Inorganic Materials | 34.8 | 0.0 | 85.2 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 9.4 | 8.7 | 9.8 |
| Solidified, Inorganic matrix | 772.0 | 536.0 | 947.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

RATES OF WASTE GENERATION

| Projected | Final Form |
|--------------------|------------|
| End of 1992: 398.0 | 398.0 m3 |
| End of 1993: 398.0 | 398.0 m3 |
| 1994: 0.0 | 0.0 m3/yr |
| 1995: 0.0 | 0.0 m3/yr |
| 1996: 0.0 | 0.0 m3/yr |
| 1997: 0.0 | 0.0 m3/yr |
| 1998-2002: 0.0 | 0.0 m3/yr |
| 2003-2022: 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 6.17E+00 Curies/m3 |
| Pu239 | 4.60E-02 Curies/m3 |
| Pu240 | 6.20E-03 Curies/m3 |
| Pu241 | 5.42E-03 Curies/m3 |
| Pu52 | 4.48E+00 Curies/m3 |
| U233 | 4.25E-04 Curies/m3 |
| U235 | 3.86E-08 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002B
D004A
D005A
D006A
D007A
D008A
D009A
F001
F002
F003
F005A
P015

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **IN** WASTE TYPE **MTRU** HANDLING **CH** GENERATOR SITE **RF**

| | | | |
|--------------------------------|-----------------|--|-----------------|
| WASTE STREAM | | STREAM NAME Absorbed Aqueous Liquids | |
| WIPP ID | IN-W221 | WIPP ID | IN-W221 |
| Local ID | ID-EGG-102T-113 | Local ID | ID-EGG-102T-113 |
| MATRIX CODE | 3113 | MATRIX CODE | 3113 |
| SITE FINAL FORM IDC | | SITE FINAL FORM IDC | |
| Waste Matrix Code Group | | Solidified Inorganics | |
| Site Matrix Description | | Solid lab waste consists of cemented or absorbed neutralized aqueous laboratory waste. | |
| DESCRIPTION | | Uncemented inorganic sludge (TRU): solid lab waste. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 113 TRUCON CODE ID 113

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|---------|----------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | Asbestos |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | PCBs | PCBs |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input checked="" type="checkbox"/> | Other | Other |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | N/A | N/A |
| | | | | Environmental Restoration | <input type="checkbox"/> | Unknown | Unknown |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W221

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208m3

Liner Type:
Liner Material:

Number Stored: 69
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 26.9 | 0.0 | 325.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 872.0 | 517.0 | 1357.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 14.4 | 14.4 m3 |
| End of 1993: | 14.4 | 14.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 1.27E+01 Curies/m3 |
| U235 | 1.09E-05 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002B
F003

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|----------------------------|-----------------|-----------------|--------------------|---|
| <u>WASTE STREAM</u> | <u>MWIR ID</u> | IN-W222 | <u>STREAM NAME</u> | Solidified Process Residues |
| | <u>WIPP ID</u> | IN-W222 | | |
| | <u>Local ID</u> | ID-EGG-102T-292 | <u>DESCRIPTION</u> | Uncemented inorganic sludge (TRU): cemented sludge. |
| <u>MATRIX CODE</u> | | 3150 | | |
| <u>SITE FINAL FORM IDC</u> | | | | |

Waste Matrix Code Group Solidified Inorganics

Site Matrix Description

This waste stream, generated at Rocky Flats Plant, consists of sludge from the incinerator off-gas system, recovery building filter plenums, pumps, etc. Portland cement is added to absorb free liquids. The sludge may contain a limited number of surgical gloves. Content code 292 replaced code 290 in 1973.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE ID NYD

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

TSCA Asbestos
PCBs
Other
N/A
Unknown

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W222 CONTAINER: SWB overpack Type/Size: Container Mat: steel Int. Vol/Ctnr: 1.9m3 Liner Type: Liner Material: Number Stored: 5 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.1 | 0.0 | 0.5 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 4.8 | 0.0 | 95.9 |
| Cellulosics | 0.2 | 0.0 | 1.4 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 18.2 | 3.8 | 29.9 |
| Solidified, Inorganic matrix | 126.6 | 70.1 | 208.4 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 3.9 | 8.8 m3 |
| End of 1993: | 3.9 | 8.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 5.93E-03 Curies/m3 |
| Pu52 | 2.81E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002B
D006A
D008A
F001
F002
F003
F003
F003

Comments

5 in number stored is the number of SWBs that will result from overpacking 4 drums per SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|---------|---|---|--------------------------------|--|
| IN-W222 | CONTAINER: Drum Type/Size: 55-gallon | Container Mat: steel Int. Vol/Ctnr: 0.208 m ³ | Liner Type: Liner Material: | Number Stored: 48 Number Projected: 0 |
|---------|---|---|--------------------------------|--|

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.1 | 0.0 | 1.1 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 10.9 | 0.0 | 219.0 |
| Cellulosics | 0.4 | 0.0 | 3.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 41.6 | 8.7 | 68.3 |
| Solidified, Inorganic matrix | 289.0 | 160.0 | 476.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 10.0 | 10.0 m ³ |
| End of 1993: | 10.0 | 10.0 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 1.35E-02 Curies/m ³ |
| Pu52 | 6.42E+01 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D002B
D006A
D008A
F001
F002
F003
F003
F003

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | |
|-------------------------|--------------------------|---|--|
| WASTE STREAM | MWIR ID IN-W225 | STREAM NAME | Predominantly Combustible Debris |
| | WIPP ID IN-W225 | | |
| | Local ID ID-EGG-109T-302 | DESCRIPTION | Benelex, Plexiglass (TRU); Benelex and Plexiglass. |
| MATRIX CODE | 5440 | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Heterogeneous | |
| Site Matrix Description | | <p>The waste, generated at Rocky Flats Plant, contains mainly Benelex which is a dense, laminated, lignocellulose hardboard made from wood chips and particles (masonite corp. type 402). The benelex is generally 2 inches thick. Some of the benelex has lead shielding attached to it. Metal hinges, and angle iron strongbacks are also present. Plexiglass is the other major constituent in the waste. The plexiglass thickness ranges from 2 to 4 inches. Both the benelex and the plexiglass are combustible. Content Code 302 was replaced by 464 in 1973.</p> | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 121; 221A TRUCON CODE ID 221A

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W225

CONTAINER: SWB overpack

Type/Size:

Container Mat: steel

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 1

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 60.2 | 0.0 | 44.2 |
| Cellulosics | 81.9 | 0.0 | 364.8 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 87.1 | 6.7 | 168.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 16.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.9 | 3.8 m3 |
| End of 1993: | 0.9 | 3.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.80E-03 Curies/m3 |
| Pu52 | 8.04E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008C
F001
F001
F001

Comments

1 in number stored is the number of SWBs that will result from overpacking 4 drums per SWB.

IN-W225 - 2

IN - 87

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ CH HANDLING ☐ CH GENERATOR SITE ☐ RF

IN-W225 CONTAINER: Drum Type/Size: 55-gallon

Container Matl: steel Int. Vol/Ctnr: 0.208 m3

Liner Type: ☐ Liner Material: ☐

Number Stored: 11 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 37.0 | 0.0 | 101.0 |
| Cellulosics | 187.0 | 0.0 | 833.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 199.0 | 15.3 | 385.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2.3 | 2.3 m3 |
| End of 1993: | 2.3 | 2.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 4.11E-03 Curies/m3 |
| Pu52 | 1.84E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008C
F001
F001
F001

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☒ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|---------------------|----------|-----------------|-------------|--|
| WASTE STREAM | MWIR ID | IN-W228 | STREAM NAME | Wastewater Treatment Sludges |
| | WIPP ID | IN-W228 | | |
| | Local ID | ID-EGG-102T-002 | DESCRIPTION | Uncemented inorganic sludge (TRU): second stage sludge |
| MATRIX CODE | | 3121 | | |
| SITE FINAL FORM IDC | | | | |

Waste Matrix Code Group

Site Matrix Description

Solidified Inorganics
This waste stream, generated at the Rocky Flats Plant, consists of wet sludge from treatment of all other plant radioactive and/or chemical contaminated wastes, and further treatment of the first stage effluent. Some pre-1973 wastes may include non-sludge wastes such as electric motors, mercury and lithium batteries, bottles of liquid chemicals, and small amounts of mercury in pint bottles. Portland cement was added to absorb the free liquids.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 211A

TRUCON CODE ID 211A

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|-------------------------------------|--|--|--|
| <input checked="" type="checkbox"/> | | | |
|-------------------------------------|--|--|--|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|-------------------------------------|--|--|--|
| <input checked="" type="checkbox"/> | | | |
|-------------------------------------|--|--|--|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|

IN-W228 - 1

IN - 89

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|------------|-------------------------|-----------------------|---------------------|--------------------|
| IN-W228 | CONTAINER: SWB overpack | Container Matl: steel | Liner Type: | Number Stored: 248 |
| Type/Size: | Int. Vol/Ctnr: 1.9m3 | Liner Material: | Number Projected: 0 | |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 9.9 | 0.0 | 45.1 |
| Cellulosics | 0.1 | 0.0 | 0.5 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 1.4 | 1.0 | 1.9 |
| Solidified, Inorganic matrix | 145.4 | 35.4 | 175.7 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 206.0 | 471.0 m3 |
| End of 1993: | 206.0 | 471.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.62E-01 Curies/m3 |
| Pu52 | 2.94E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

- D002B
- D003E
- D005A
- D006A
- D007A
- D008A
- D009A
- D009D
- D011A
- D022
- D028
- F001
- F002
- F003
- F003
- F003

IN-W228 - 2

IN - 90

2/28/95

Comments
248 in number stored is the number of SWBs that will result from overpacking 4 drums per SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE

HANDLING

GENERATOR SITE

P015

IN-W228 - 3

IN - 91

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W228 CONTAINER: Drum Type/Size: 55-gallon Container Matl: steel Int. Vol/Ctnr: 0.208 m3 Liner Type: Liner Material: Number Stored: 2559 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 22.7 | 0.0 | 103.0 |
| Cellulosics | 0.2 | 0.0 | 1.1 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 3.1 | 2.2 | 4.4 |
| Solidified, Inorganic matrix | 332.0 | 80.9 | 408.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 532.0 | 532.0 m3 |
| End of 1993: | 532.0 | 532.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.71E-01 Curies/m3 |
| Pu52 | 6.72E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

- D002B
- D003E
- D005A
- D006A
- D007A
- D008A
- D009A
- D009D
- D011A
- D022
- D028
- F001
- F002
- F003
- F003
- F003

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

P015

IN-W228 - 5

IN - 93

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|-------------------------------------|----------|-----------------|-------------|---|
| WASTE STREAM | MWIR ID | IN-W230 | STREAM NAME | Inorganic Non-Metal Debris |
| | WIPP ID | IN-W230 | | |
| | Local ID | ID-EGG-115T-122 | DESCRIPTION | Concrete-Brick (TRU): Inorganic Solid Waste |
| MATRIX CODE | | 5200 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | | |
| Inorganic Non-metal | | | | |
| Site Matrix Description | | | | |
| Insulation, firebrick and concrete. | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 122 TRUCON CODE ID 122

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W230

CONTAINER: SWB

Type/Size:

Container Matl: steel
Int. Vol/Ctnr: 1.9m3

Liner Type:
Liner Material:

Number Stored: 0
Number Projected: 6

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 231.6 | 21.1 | 547.4 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 5.1 | 11.6 m3 |
| End of 1993: | 5.1 | 11.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.23E-03 Curies/m3 |
| Pu52 | 2.71E-03 Curies/m3 |
| U235 | 3.42E-06 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

F001
F002

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W230 CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 63
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 528.8 | 48.1 | 1250.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 13.1 | 13.1 m ³ |
| End of 1993: | 13.1 | 13.1 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 5.08E-03 Curies/m ³ |
| Pu52 | 6.18E+01 Curies/m ³ |
| U235 | 7.80E-06 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

F001
F002

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **IN** WASTE TYPE **MTRU** HANDLING **CH** GENERATOR SITE **RF**

| | | | | |
|--|----------|-----------------|-------------|--------------------------|
| WASTE STREAM | MWIR ID | IN-W240 | STREAM NAME | Glass Debris |
| | WIPP ID | IN-W240 | | |
| | Local ID | ID-EGG-119T-118 | DESCRIPTION | Glass (TRU): Glass Waste |
| MATRIX CODE | | S220 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group Site Matrix Description Inorganic Non-metal Glass waste consists of discarded labware, windows, containers or raschig rings from various processes. | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 118 TRUCON CODE ID 118

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|---------|---|--|--------------------------------|---|
| IN-W240 | CONTAINER: Drum Type/Size: 55-gallon | Container Mat: steel Int. Vol/Ctnr: 0.208m3 | Liner Type: Liner Material: | Number Stored: 813 Number Projected: 0 |
|---------|---|--|--------------------------------|---|

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average |
|------------------------------|---------|
| Iron-based Metals/Alloys | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 |
| Other Metals | 0.0 |
| Other Inorganic Materials | 1.6 |
| Cellulose | 299.0 |
| Rubber | 0.0 |
| Plastics | 1.1 |
| Solidified, Inorganic matrix | 32.4 |
| Solidified, Organic matrix | 0.0 |
| Soils | 0.0 |
| Packaging Materials, Steel | 131.0 |
| Packaging Material, Plastic | 37.0 |

| | Lower Limit | Upper Limit |
|--|-------------|-------------|
| | 0.0 | 0.0 |
| | 0.0 | 0.0 |
| | 0.0 | 0.0 |
| | 0.0 | 13.1 |
| | 51.4 | 850.0 |
| | 0.0 | 0.0 |
| | 0.0 | 8.7 |
| | 3.8 | 69.9 |
| | 0.0 | 0.0 |
| | 0.0 | 0.0 |

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 169.1 | 169.1 m3 |
| End of 1993: | 169.1 | 169.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.49E-01 Curies/m3 |
| Pu52 | 1.75E+01 Curies/m3 |
| U235 | 3.74E-07 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002B
D008A
D009A
F001

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

| | | | | |
|---------------------|----------|-----------------|-------------|--------------------|
| WASTE STREAM | MWIR ID | IN-W243 | STREAM NAME | Glass Debris |
| | WIPP ID | IN-W243 | | |
| | Local ID | ID-EGG-119T-440 | DESCRIPTION | Glass (TRU): Glass |
| MATRIX CODE | | 5220 | | |
| SITE FINAL FORM IDC | | | | |

Waste Matrix Code Group Inorganic Non-metal

Site Matrix Description

This waste stream, generated at the Rocky Flats Plant, consists of glass sample vials, bottles, lead-taped sample vials, ion exchange columns, dissolver pyrex laboratory glassware such as pyrex flasks and beakers, glovebox windows (glass, plexiglass, leaded glass), and crushed and ground glass. The waste includes limited amounts of other noncombustibles such as metals, and limited amounts of combustible wastes. No sludges should be present although some glass vials may contain limited amounts of free liquids.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 118; 218B

TRUCON CODE ID 218B

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

TSCA
Asbestos
PCBs
Other
N/A
Unknown

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W243

CONTAINER: SWB

Type/Size:

Container Matl: Steel

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 47

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.7 | 0.0 | 5.7 |
| Other Inorganic Materials | 130.9 | 22.5 | 372.2 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.5 | 0.0 | 3.8 |
| Plastics | 14.2 | 1.7 | 30.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 38.8 | 88.7 m3 |
| End of 1993: | 38.8 | 88.7 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 6.68E-02 Curies/m3 |
| Pu52 | 6.88E+00 Curies/m3 |
| U235 | 2.70E-07 Curies/m3 |
| U238 | 1.87E-08 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002B
D008A
D008C
D029
F001
F002
F003
F005

Comments

47 in numer stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|---------|----------------------|-------------------------|-----------------|---------------------|
| IN-W243 | CONTAINER: Drum | Container Matl: Steel | Liner Type: | Number Stored: 707 |
| | Type/Size: 55-gallon | Int. Vol/Ctnr: 0.208 m3 | Liner Material: | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 1.6 | 0.0 | 13.1 |
| Other Inorganic Materials | 299.0 | 51.4 | 850.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 1.1 | 0.0 | 8.7 |
| Plastics | 32.4 | 3.8 | 69.9 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

13% of this waste stream volume is classified as RH-TRU without current shielding. It is anticipated that the RH-TRU portion will be shipped as CH-TRU with internal shielding.

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.53E-01 Curies/m3 |
| Pu52 | 1.57E+01 Curies/m3 |
| U235 | 6.16E-07 Curies/m3 |
| U238 | 4.26E-08 Curies/m3 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 147.0 | 147.0 m3 |
| End of 1993: | 147.0 | 147.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D002B
D008A
D008C
D029
F001
F002
F003
F005

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☒ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|---|----------|-----------------|-------------|-------------------------------------|
| WASTE STREAM | MMWR ID | IN-W245 | STREAM NAME | Uncategorized Unknown |
| | WIPP ID | IN-W245 | | |
| | Local ID | ID-EGG-119T-441 | DESCRIPTION | Glass (TRU): Unleached Rashig Rings |
| MATRIX CODE | | 8900 | | |
| SITE FINAL FORM IDC | | | | |
| <p>Waste Matrix Code Group Inorganic Non-metal</p> <p>Site Matrix Description This waste stream, generated at the Rocky Flats Plant, consists of boronated glass rings used to minimize neutron multiplication in liquid storage tanks. Content code 441, Unleached Rashig Rings was used from 1971-79 as a separate stream, and then combined with content code 442, Leached Rashig Rings. The rings are about 1.75 inches high and 1.5 inch in diameter, with a 0.25 inch wall thickness. The rings are heat and chemical resistant borosilicate glass with 11.8 - 13.8 weight % B2O3, with an isotopic content of 10B/11B of not less than 0.24. Some of the rings, which had above-discard amounts of plutonium, were leached with nitric acid to recover the plutonium and then rinsed with water, and dried. Some of the rings may be contaminated with small amounts of oil.</p> | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 125; 225B

TRUCON CODE ID 225B

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | | <input type="checkbox"/> |

IN-W245 - 1

IN - 102

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ CH HANDLING ☐ CH GENERATOR SITE ☐ RF

Number Stored: 54
Number Projected: 0

Container Mat: steel
Int. Vol/Ctnr: 1.9m3
Liner Type: ☐
Liner Material: ☐

IN-W245 CONTAINER: SWB
Type/Size: ☐

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 154.6 | 92.0 | 194.0 |
| Cellulosics | 9.9 | 5.9 | 15.6 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 3.5 | 1.4 | 5.9 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 16.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 44.9 | 102.6 m3 |
| End of 1993: | 44.9 | 102.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 5.35E-03 Curies/m3 |
| Pu52 | 1.38E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D001C
D002B
D008A
D008C
F001

Comments

54 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W245 CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:
Number Stored: 597
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 353.0 | 210.0 | 443.0 |
| Cellulosics | 22.7 | 13.5 | 35.6 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 7.9 | 3.3 | 13.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 124.1 | 124.1 m ³ |
| End of 1993: | 124.1 | 124.1 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 1.22E-02 Curies/m ³ |
| Pu52 | 3.16E+01 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D001C
D002B
D008A
D008C
F001

Comments

7% of this waste stream volume is classified as RH-TRU without current shielding. It is anticipated that the RH-TRU portion will be shipped as CH-TRU with internal shielding.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☒ MTRU

HANDLING ☒ CH

GENERATOR SITE ☒ RF

| | | | | |
|---------------------|----------|-----------------|-------------|-----------------------------------|
| WASTE STREAM | MWIR ID | IN-W247 | STREAM NAME | Uncategorized Unknown |
| | WIPP ID | IN-W247 | | |
| | Local ID | ID-EGG-119T-442 | DESCRIPTION | Glass (TRU): Leached Rashig Rings |
| MATRIX CODE | | 8900 | | |
| SITE FINAL FORM IDC | | | | |

Waste Matrix Code Group

Site Matrix Description

Inorganic Non-metal

This waste stream, generated at the Rocky Flats Plant, consists of boronated glass rings used to minimize neutron multiplication in liquid storage tanks. Content code 441, Unleached Rashig Rings was used from 1971-79 as a separate stream, and then combined with content code 442, Leached Rashig Rings. The rings are about 1.75 inches high and 1.5 inch in diameter, with a 0.25 inch wall thickness. The rings are heat and chemical resistant borosilicate glass with 11.8 - 13.8 weight % B2O3, with an isotopic content of 10B/11B of not less than 0.24. Some of the rings, which had above-discard amounts of plutonium, were leached with nitric acid to recover the plutonium and then rinsed with water, and dried. Some of the rings may be contaminated with small amounts of oil.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 118; 218A

TRUCON CODE ID 218A

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒
 Non-Defense TRU Waste ☐
 Commercial TRU Waste ☐
 Unknown ☐

Mixed TRU ☒
 Non-Mixed TRU ☐
 Suspect Mixed TRU ☐
 Unknown ☐

☒ ☐ ☐

Research and Devel. Waste
 Operations Waste
 Residues
 Decon and Decommissioning
 Environmental Restoration
 From Treatment of Waste
 Maintenance

☒ ☒ ☐ ☒ ☐ ☐

TSCA Asbestos
 PCBs
 Other
 N/A
 Unknown

☐ ☐ ☒ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W247

CONTAINER: SWB overpack

Type/Size:

Container Matl: Steel

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 40

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 86.3 | 37.8 | 167.3 |
| Cellulosics | 10.3 | 0.0 | 11.5 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 4.5 | 1.9 | 10.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 32.9 | 75.1 m3 |
| End of 1993: | 32.9 | 75.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.26E-03 Curies/m3 |
| Pu52 | 6.66E+00 Curies/m3 |
| U235 | 1.81E-07 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002B
D008A
D028
D029
F001
F002
F003
F005A

Comments

40 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W247 CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Cntr: 0.208m3

Liner Type:
Liner Material:
Number Stored: 801
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 197.0 | 86.3 | 382.0 |
| Cellulosics | 23.6 | 0.0 | 26.2 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 10.3 | 4.4 | 24.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 166.6 | 166.6 m3 |
| End of 1993: | 166.6 | 166.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 5.17E-03 Curies/m3 |
| Pu52 | 1.52E+01 Curies/m3 |
| U235 | 4.11E-07 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002B
D008A
D028
D029
F001
F002
F003
F005A

Comments

6% of this waste stream volume is classified as RH-TRU without current shielding. It is anticipated that the RH-TRU portion will be shipped as CH-TRU with internal shielding.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MD

| | | | | | |
|-------------------------|--|--|-----------------|---|-----------------------|
| WASTE STREAM | | MWIR ID | IN-W249 | STREAM NAME | Uncategorized Unknown |
| | | WIPP ID | IN-W249 | | |
| | | Local ID | ID-EGG-119T-810 | | |
| MATRIX CODE | | | 8900 | DESCRIPTION Glass (TRU): Glass, Flasks, Sample Vials, etc. | |
| SITE FINAL FORM IDC | | | | | |
| Waste Matrix Code Group | | Inorganic Non-metal | | | |
| Site Matrix Description | | This waste stream, generated at Mound Laboratory, consists mostly of whole and broken glassware and glass sample vials. The majority of the glass is pyrex. Limited amounts of other noncombustibles, material similar to that in content codes 803, 805, 811, and 826 may be present. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | |
|---|--|--|--|--|--|
| X | | | | | |
|---|--|--|--|--|--|

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--|--|--|---|--|
| | | | X | |
|--|--|--|---|--|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MD

IN-W249

CONTAINER: SWB

Type/Size:

Container Mat: steel

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 0

Number Projected: 1

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.7 | 0.0 | 5.7 |
| Other Inorganic Materials | 130.9 | 22.5 | 372.2 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.5 | 0.0 | 3.8 |
| Plastics | 14.2 | 1.7 | 30.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.8 | 1.5 m3 |
| End of 1993: | 0.8 | 1.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 2.60E+02 Curies/m3 |
| Pu239 | 1.87E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D009A

D009D

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH GENERATOR SITE ☐ MD

IN-W249

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctr: 0.208 m³

Liner Type: ☐
Liner Material: ☐

Number Stored: 10
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 1.6 | 0.0 | 13.1 |
| Other Inorganic Materials | 299.0 | 51.4 | 850.0 |
| Cellulose | 0.0 | 0.0 | 0.0 |
| Rubber | 1.1 | 0.0 | 8.7 |
| Plastics | 32.4 | 3.8 | 69.9 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 2.0 | 2.0 m ³ |
| End of 1993: | 2.0 | 2.0 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu238 | 5.94E+02 Curies/m ³ |
| Pu239 | 4.28E+00 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D009A
D009D

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☒ MTRU HANDLING ☒ CH GENERATOR SITE ☒ RF

| | | | | |
|---------------------|----------|-----------------|-------------|--------------------------------------|
| WASTE STREAM | MWIR ID | IN-W250 | STREAM NAME | Leaded Gloves/Aprons Debris |
| | WIPP ID | IN-W250 | | |
| | Local ID | ID-EGG-120T-123 | DESCRIPTION | Glovebox Gloves (TRU): Leaded Rubber |
| MATRIX CODE | | 5311 | | |
| SITE FINAL FORM IDC | | | | |

| | |
|-------------------------|---|
| Waste Matrix Code Group | Combustible |
| Site Matrix Description | Discarded leaded glovebox gloves and leaded aprons. |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 123 TRUCON CODE ID 123

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

GENERATOR SITE RF

HANDLING CH

WASTE TYPE MTRU

Number Stored: 22
Number Projected: 0

Liner Type:
Liner Material:

Container Mat: steel
Int. Vol/Ctnr: 1.9m3

CONTAINER: SWB overpack
Type/Size:

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.52E-04 Curies/m3 |
| Pu52 | 2.13E+01 Curies/m3 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 4.5 | 10.1 m3 |
| End of 1993: | 4.5 | 10.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D008C

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 111.8 | 24.7 | 207.8 |
| Other Inorganic Materials | 12.6 | 2.1 | 31.6 |
| Cellulosics | 2.4 | 0.5 | 4.4 |
| Rubber | 116.6 | 25.8 | 216.6 |
| Plastics | 7.1 | 1.6 | 13.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 16.0 | 0.0 | 0.0 |

Comments

22 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W250 CONTAINER: Drum Type/Size: 55-gallon
 Container Mat: steel Int. Vol/Ctnr: 0.208m3
 Number Stored: 719
 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 255.3 | 56.5 | 474.5 |
| Other Inorganic Materials | 28.8 | 4.8 | 72.1 |
| Cellulosics | 5.4 | 1.2 | 10.1 |
| Rubber | 266.2 | 58.9 | 494.7 |
| Plastics | 16.3 | 3.6 | 30.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 45.9 | 45.9 m3 |
| End of 1993: | 45.9 | 45.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 8.04E-04 Curies/m3 |
| Pu52 | 4.86E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008C

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☒ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|---------------------|----------|-----------------|-------------|--|
| WASTE STREAM | MMIR ID | IN-W252 | STREAM NAME | Leaded Gloves/Aprons Debris |
| | WIPP ID | IN-W252 | | |
| | Local ID | ID-EGG-120T-339 | DESCRIPTION | Glovebox Gloves (TRU): Leaded Rubber Gloves and Aprons |
| MATRIX CODE | | 5311 | | |
| SITE FINAL FORM IDC | | | | |

Waste Matrix Code Group

Site Matrix Description

Combustible
This waste comes from Rocky Flats Plant. It consists of leaded rubber gloves and aprons. A limited amount of unleaded gloves, lead bricks, and lead sheeting may also be present.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 123; 223A

TRUCON CODE ID 123; 223A

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | |
|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

IN-W252 - 1

IN - 114

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

| | | | | |
|------------|-------------------------|----------------------|-------------|---------------------|
| IN-W252 | CONTAINER: SWB overpack | Container Mat: steel | Liner Type: | Number Stored: 45 |
| Type/Size: | Int. Vol/Ctnr: 1.9m3 | Liner Material: | | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 8.4 | 2.3 | 28.2 |
| Cellulosics | 1.6 | 0.0 | 12.4 |
| Rubber | 179.5 | 116.5 | 275.4 |
| Plastics | 5.3 | 1.4 | 19.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 37.2 | 85.0 m3 |
| End of 1993: | 37.2 | 85.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.13E-01 Curies/m3 |
| Pu52 | 2.33E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

- D008C
- D022
- D028
- D029
- F001
- F002
- F003
- F005A

Comments

45 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE [MTRU] HANDLING [CH] GENERATOR SITE [RF]

IN-W252 CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:
Number Stored: 591
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 19.2 | 5.2 | 64.5 |
| Cellulosics | 3.7 | 0.0 | 28.4 |
| Rubber | 410.0 | 266.0 | 629.0 |
| Plastics | 12.0 | 3.3 | 44.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 12.0 | 123.0 m3 |
| End of 1993: | 123.0 | 123.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.58E-01 Curies/m3 |
| Pu52 | 5.33E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008C
D022
D028
D029
F001
F002
F003
F005A

Comments

13% of this waste stream volume is classified as RH-TRU without current shielding. It is anticipated that the RH-TRU portion will be shipped as CH-TRU with internal shielding.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **IN** WASTE TYPE **MTRU** HANDLING **CH** GENERATOR SITE **RF**

| | | |
|--|---------------------------------|---|
| WASTE STREAM | MWIR ID IN-W254 | STREAM NAME Leaded Gloves/Aprons Debris |
| | WIPP ID IN-W254 | |
| | Local ID ID-EGG-120T-463 | |
| MATRIX CODE | 5311 | DESCRIPTION Glovebox Gloves (TRU); Leaded Rubber Gloves and Aprons |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group Combustible Site Matrix Description This waste comes from Rocky Flats Plant. It consists of leaded rubber gloves and aprons. A limited amount of unleaded gloves, lead bricks, and lead sheeting may also be present. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 223A **TRUCON CODE** ID 223A

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|---|---|--|---|---|--|---|---|
| Defense TRU Waste Non-Defense TRU Waste Commercial TRU Waste Unknown | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Mixed TRU Non-Mixed TRU Suspect Mixed TRU Unknown | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Research and Devel. Waste Operations Waste Residues Decon and Decommissioning Environmental Restoration From Treatment of Waste Maintenance | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | TSCA Asbestos PCBs Other N/A Unknown | <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> |
|---|---|--|---|---|--|---|---|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W254

CONTAINER: SWB overpack

Type/Size:

Container Matl: steel

Int. Vol/Ctnr: 1.9 m3

Liner Type:

Liner Material:

Number Stored: 3

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 111.8 | 24.7 | 207.8 |
| Other Inorganic Materials | 12.6 | 2.1 | 31.6 |
| Cellulosics | 2.4 | 0.5 | 4.4 |
| Rubber | 116.6 | 25.8 | 216.6 |
| Plastics | 7.1 | 1.6 | 13.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2.6 | 5.8 m3 |
| End of 1993: | 2.6 | 5.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 1.39E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008C
F001
F002

Comments

3 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W254

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:
Number Stored: 35
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 255.3 | 56.5 | 474.5 |
| Other Inorganic Materials | 28.8 | 4.8 | 72.1 |
| Cellulosics | 5.4 | 1.2 | 10.1 |
| Rubber | 266.2 | 58.9 | 494.7 |
| Plastics | 16.3 | 3.6 | 30.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 7.6 | 7.6 m ³ |
| End of 1993: | 7.6 | 7.6 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu52 | 3.18E+01 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D008C
F001
F002

Comments

13% of this waste stream volume is classified as RH-TRU without current shielding. It is anticipated that the RH-TRU portion will be shipped as CH-TRU with internal shielding.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **IN** WASTE TYPE **MTRU** HANDLING **CH** GENERATOR SITE **MD**

| | | | |
|---------------------------------|--|---|---|
| WASTE STREAM | | MWIR ID IN-W256 | STREAM NAME |
| WIPP ID IN-W256 | | | Leaded Gloves/Aprons Debris |
| Local ID ID-EGG-120T-802 | | | DESCRIPTION Glovebox Gloves (TRU): Dry Box Gloves and O-Rings |
| MATRIX CODE 5311 | | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Combustible | |
| Site Matrix Description | | This waste stream is generated at the Mound Laboratory. The waste consists of neoprene dry box (glovebox) gloves, neoprene, O-rings, and lead-lined gloves. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT **TRUCON CODE**

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MD

IN-W256

CONTAINER: SWB overpack

Type/Size:

Container Matl: steel

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 9

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 111.8 | 24.7 | 207.8 |
| Other Inorganic Materials | 12.6 | 2.1 | 31.6 |
| Cellulosics | 2.4 | 0.5 | 4.4 |
| Rubber | 116.6 | 25.8 | 216.6 |
| Plastics | 7.1 | 1.6 | 13.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 7.2 | 16.4 m3 |
| End of 1993: | 7.2 | 16.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.35E-02 Curies/m3 |
| Pu238 | 4.30E+01 Curies/m3 |
| Pu239 | 3.07E-01 Curies/m3 |
| Pu240 | 6.59E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008C

Comments

9 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ MD

IN-W256 CONTAINER: Drum
Type/Size: 55-gallon
Container Matl: steel
Int. Vol/Ctnr: 0.208 m³
Liner Type:
Liner Material:
Number Stored: 89
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 255.3 | 56.5 | 474.5 |
| Other Inorganic Materials | 28.8 | 4.8 | 72.1 |
| Cellulosics | 5.4 | 1.2 | 10.1 |
| Rubber | 266.2 | 58.9 | 494.7 |
| Plastics | 16.3 | 3.6 | 30.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 18.5 | 18.5 m ³ |
| End of 1993: | 18.5 | 18.5 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 5.36E-02 Curies/m ³ |
| Pu238 | 9.82E+01 Curies/m ³ |
| Pu239 | 7.00E-01 Curies/m ³ |
| Pu240 | 1.50E+00 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D008C

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ AE

| | | | |
|--------------------------------|--------------------------|---|---|
| WASTE STREAM | MWIR ID IN-W259 | STREAM NAME | Heterogeneous Debris |
| | WIPP ID IN-W259 | | |
| | Local ID ID-EGG-144T-104 | DESCRIPTION | Radioactive Sources (TRU): Alpha Hot Cell Waste |
| MATRIX CODE | 5400 | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Heterogeneous | |
| Site Matrix Description | | This waste stream, generated at Argonne National Laboratory-East, contains alpha hot cell waste. Noncombustible and combustible waste are segregated. Combustible wastes include: paper, plastic and PVC containers, rubber O-rings and gloves, rags, and Q-tips. Noncombustible wastes include: lab equipment, tools, fixtures, glassware, pipe, tubing, fitting, fasteners, firebrick, ferrous and nonferrous metal scraps and parts, and small electric motors. Sodium in the waste is reacted with ethyl alcohol, mixed with pelletized clay, and dried. Nitrates and oxidizing agents are neutralized or reduced, mixed with pelletized clay, and ?? to ferrous or ferric salts. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE AE

IN-W259

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: Steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 283
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1634.6 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.1 | 0.0 | 22.7 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.3 | 0.0 | 16.4 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 58.8 | 58.8 m3 |
| End of 1993: | 58.8 | 58.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 2.45E-01 Curies/m3 |
| Pu240 | 2.71E-02 Curies/m3 |
| U235 | 6.09E-05 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008A

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ BT

| | | |
|--|-----------------|--|
| WASTE STREAM | | STREAM NAME |
| WASTE ID | IN-W260A | Inorganic Process Residues |
| WIPP ID | IN-W260A | |
| Local ID | ID-EGG-144T-040 | |
| MATRIX CODE | 3100 | Radioactive Sources (TRU): Solid Binary Scrap Powder, Etc. |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | | |
| Site Matrix Description | | |
| Uncategorized Metal | | |
| This waste stream, generated at Bettis Atomic Power Laboratory, contains solid binary scrap as powder, pellets, or rods. The material is made of ceramic based UO2 and ThO2. Some kilorods or fuel rods constructed of fuel pellets within hollow zirconium tubes are also included. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE BT

IN-W260A CONTAINER: SWB overpack
Type/Size:

Container Mat: steel
Int. Vol/Ctnr: 1.9 m3
Liner Type:
Liner Material:

Number Stored: 3
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 112.2 | 112.2 | 112.2 |
| Aluminum-Based Metals/Alloys | 12.2 | 12.2 | 12.2 |
| Other Metals | 10.8 | 10.8 | 10.8 |
| Other Inorganic Materials | 12.8 | 1.0 | 12.8 |
| Cellulosics | 3.2 | 0.0 | 19.8 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 6.6 | 0.0 | 29.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2.5 | 5.6 m3 |
| End of 1993: | 2.5 | 5.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1998: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

3 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

Isotopic composition is unknown for this waste stream.

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE BT

IN-W260A CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208m3

Liner Type:
Liner Material:

Number Stored: 30
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 256.1 | 256.1 | 256.1 |
| Aluminum-Based Metals/Alloys | 27.8 | 27.8 | 27.8 |
| Other Metals | 24.7 | 24.7 | 24.7 |
| Other Inorganic Materials | 29.3 | 2.3 | 29.3 |
| Cellulosics | 7.4 | 0.0 | 45.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 15.1 | 0.0 | 67.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 6.3 | 6.3 m3 |
| End of 1993: | 6.3 | 6.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Isotopic composition is unknown for this waste stream.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ RH ☐ GENERATOR SITE ☐ BT

| | | | |
|-------------------------|--|-------------|--|
| WASTE STREAM | MWIR ID IN-W260B | STREAM NAME | Inorganic Process Residues |
| | WIPP ID IN-W260B | | |
| | Local ID ID-EGG-144T-Q40 | DESCRIPTION | Radioactive Sources (TRU): Solid Binary Scrap Powder, Etc. |
| MATRIX CODE | 3100 | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | Uncategorized Metal | | |
| Site Matrix Description | This waste stream, generated at Bettis Atomic Power Laboratory, contains solid binary scrap as powder, pellets, or rods. The material is made of ceramic based UO2 and ThO2. Some kilorods or fuel rods constructed of fuel pellets within hollow zirconium tubes are also included. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE BT

IN-W260B

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 11
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 256.1 | 256.1 | 256.1 |
| Aluminum-Based Metals/Alloys | 27.8 | 27.8 | 27.8 |
| Other Metals | 24.7 | 24.7 | 24.7 |
| Other Inorganic Materials | 29.3 | 2.3 | 29.3 |
| Cellulosics | 7.4 | 0.0 | 45.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 15.1 | 0.0 | 67.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 2.2 | 2.2 m ³ |
| End of 1993: | 2.2 | 2.2 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

Comments

Isotopic composition is unknown for this waste stream.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MD

WASTE STREAM

MWIR ID IN-W263

WIPP ID IN-W263

Local ID ID-EGG-141T-842

MATRIX CODE

4200

SITE FINAL FORM IDC

STREAM NAME Contaminated Soils/Debris

DESCRIPTION

Particulate Wastes (TRU): Contaminated Soil

Waste Matrix Code Group

Site Matrix Description

Soils

This waste, generated at Mound Laboratories, consists of soils, including small rocks and pebbles, generated from cleanup of a leak. All soil waste was dry when packaged. A few waste boxes also include picks, shovels, metal cans, rubber gloves, booties, respirators, plastic, and possibly an air hammer and chisel.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒ ☐ ☐ ☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒ ☐ ☐ ☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒ ☒ ☐ ☒ ☐ ☐ ☐

TSCA
Asbestos
PCBs
Other
N/A
Unknown

☐ ☐ ☐ ☒ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MD

IN-W263

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctr: 0.208m³

Liner Type:
Liner Material:

Number Stored: 19
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.1 | 0.0 | 0.1 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 6.4 | 4.6 | 33.9 |
| Cellulosics | 19.0 | 0.0 | 19.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 613.0 | 457.4 | 671.5 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 3.8 | 3.8 m ³ |
| End of 1993: | 3.8 | 3.8 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu238 | 4.20E-01 Curies/m ³ |
| Pu239 | 2.54E-02 Curies/m ³ |
| Pu83 | 1.33E-01 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D002B
D003E
D006A
D007A
D008A
D009A
D010A
D011A

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|-------------------------|---|-----------------|-------------|---|
| WASTE STREAM | MWIR ID | IN-W265 | STREAM NAME | Predominately Inorganic Non-metal Debris |
| | WIPP ID | IN-W265 | | |
| | Local ID | ID-EGG-141T-374 | DESCRIPTION | Particulate Wastes (TRU): Blacktop, Concrete, Dirt and Sand |
| MATRIX CODE | | S430 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | This waste contains blacktop, concrete, reinforced concrete, cinderblocks, bricks, dirt and sand. Limited amounts of waste may be damp. A limited amount may contain combustibles such as coveralls and gloves. The waste is generated from cleanup of spills and leaks, process changes, maintenance, and D&D operations. Portland cement is added to containers that contain wet or damp waste. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 121 TRUCON CODE ID 121

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W265

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 230
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 447.0 | 8.7 | 1442.3 |
| Cellulose | 0.0 | 0.0 | 12.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 24.0 | 12.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 49.0 | 9.6 | 144.2 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 47.8 | 47.8 m3 |
| End of 1993: | 47.8 | 47.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 9.67E-03 Curies/m3 |
| Pu52 | 7.53E+00 Curies/m3 |
| U235 | 4.98E-07 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

F001
F002
F003
F004

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☒ TRU HANDLING ☒ CH GENERATOR SITE ☒ IN, AW

| | | | | |
|---|----------|-----------------|-------------|--|
| WASTE STREAM | MWIR ID | IN-W269A | STREAM NAME | Debris Waste |
| | WIPP ID | IN-W269A | | |
| | Local ID | ID-EGG-141T-150 | DESCRIPTION | Particulate Wastes (TRU): Laboratory Waste |
| MATRIX CODE | | 5000 | | |
| SITE FINAL FORM IDC | | | | |
| <p>Waste Matrix Code Group</p> <p>Site Matrix Description</p> <p>Heterogeneous</p> <p>This waste stream, generated at Idaho National Engineering Laboratory, contains laboratory waste from ANL-W including fluxwire, fission counters, HEDL samples, analytical samples dissolved and absorbed on Oil-Dri, glassware, vials, miscellaneous waste from gloveboxes, dissolved pellets absorbed on Oil-Dri, enriched and normal U308 pellets, aluminum foil and capsules, TREAT waste capsules, chlorinated ion exchange resins, Pu sources, and irradiated GE ca77. Lab waste from ICPP includes Kimwipes, trash, glassware, dissolved samples absorbed in Oil-Dri, analytical samples, gloves, etc.</p> | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒

Non-Defense TRU Waste ☐

Commercial TRU Waste ☐

Unknown ☐

Mixed TRU ☒

Non-Mixed TRU ☐

Suspect Mixed TRU ☐

Unknown ☐

Research and Devel. Waste ☒

Operations Waste ☒

Residues ☒

Decon and Decommissioning ☒

Environmental Restoration ☐

From Treatment of Waste ☐

Maintenance ☐

TSCA ☒

Asbestos ☒

PCBs ☒

Other ☒

N/A ☒

Unknown ☒

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE IN, AW

IN-W269A

CONTAINER: SWB overpack

Type/Size:

Container Mat: steel

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 9

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 42.1 | 0.0 | 715.8 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.7 |
| Other Metals | 0.0 | 0.0 | 9.9 |
| Other Inorganic Materials | 1.1 | 0.0 | 10.5 |
| Cellulosics | 35.4 | 0.0 | 80.9 |
| Rubber | 3.2 | 0.0 | 7.2 |
| Plastics | 28.4 | 0.0 | 65.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED

| RATES OF WASTE GENERATION | Projected | Final Form |
|---------------------------|-----------|------------|
| End of 1992: | 7.2 | 16.4 m3 |
| End of 1993: | 7.2 | 16.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.51E+00 Curies/m3 |
| Pu238 | 2.92E+00 Curies/m3 |
| Pu239 | 2.57E+01 Curies/m3 |
| Pu240 | 2.66E+00 Curies/m3 |
| Pu242 | 8.72E-06 Curies/m3 |
| Pu52 | 1.19E-01 Curies/m3 |
| U235 | 4.45E-03 Curies/m3 |
| U238 | 2.74E-05 Curies/m3 |

Comments

9 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE IN, AW

IN-W269A CONTAINER: Drum
Type/Size: 55-gallon

Container Matl:
Int. Vol/Ctnr: 0.208/m3
Liner Type: steel
Liner Material:

Number Stored: 89
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1634.6 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.1 | 0.0 | 22.7 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.3 | 0.0 | 16.4 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 18.4 | 18.4 m3 |
| End of 1993: | 18.4 | 18.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 5.73E+00 Curies/m3 |
| Pu238 | 6.66E+00 Curies/m3 |
| Pu239 | 5.86E+01 Curies/m3 |
| Pu240 | 6.07E+00 Curies/m3 |
| Pu242 | 1.99E-05 Curies/m3 |
| Pu52 | 2.71E-01 Curies/m3 |
| U235 | 1.02E-02 Curies/m3 |
| U238 | 6.25E-05 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ RH ☐ GENERATOR SITE ☐ IN, AW

WASTE STREAM

WVIR ID IN-W269B

WIPP ID IN-W269B

Local ID ID-EGG-141T-150

MATRIX CODE

SITE FINAL FORM IDC

STREAM NAME Debris Waste

DESCRIPTION Particulate Wastes (TRU): Laboratory Waste

Waste Matrix Code Group

Site Matrix Description

Heterogeneous

This waste stream, generated at Idaho National Engineering Laboratory, contains laboratory waste from ANL-W including fluxwire, fission counters, HEDL samples, analytical samples dissolved and absorbed on Oil-Dri, glassware, vials, miscellaneous waste from gloveboxes, dissolved pellets absorbed on Oil-Dri, enriched and normal U308 pellets, aluminum foil and capsules, TREAT waste capsules, chlorinated ion exchange resins, Pu sources, and irradiated GE ca77. Lab waste from ICPP includes Kimwipes, trash, glassware, dissolved samples absorbed in Oil-Dri, analytical samples, gloves, etc.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste

Non-Defense TRU Waste

Commercial TRU Waste

Unknown

Mixed TRU

Non-Mixed TRU

Suspect Mixed TRU

Unknown

Research and Devel. Waste

Operations Waste

Residues

Decon and Decommissioning

Environmental Restoration

From Treatment of Waste

Maintenance

TSCA

Asbestos

PCBs

Other

N/A

Unknown

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING RH GENERATOR SITE IN, AW

| | | | | |
|----------------------|-----------------|-------------------------------------|-----------------|---------------------|
| IN-W269B | CONTAINER: Drum | Container Mat: steel | Liner Type: | Number Stored: 1 |
| Type/Size: 55-gallon | | Int. Vol/Ctnr: 0.208 m ³ | Liner Material: | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1634.6 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.1 | 0.0 | 22.7 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.3 | 0.0 | 16.4 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 0.3 | 0.3 m ³ |
| End of 1993: | 0.3 | 0.3 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 5.73E+00 Curies/m ³ |
| Pu238 | 6.66E+00 Curies/m ³ |
| Pu239 | 5.86E+01 Curies/m ³ |
| Pu240 | 6.07E+00 Curies/m ³ |
| Pu242 | 1.99E-05 Curies/m ³ |
| Pu52 | 2.71E-01 Curies/m ³ |
| U235 | 1.02E-02 Curies/m ³ |
| U238 | 6.25E-05 Curies/m ³ |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE MD

| | | | |
|---------------------|--------------------------|-------------|--|
| WASTE STREAM | MWIR ID IN-W271 | STREAM NAME | Uncategorized Inorganic Process Residues |
| | WIPP ID IN-W271 | | |
| | Local ID ID-EGG-137T-814 | | |
| MATRIX CODE | 3190 | DESCRIPTION | Nonmetal Molds and Crucibles (TRU): Contaminated Mercury or Graphite Crucibles |
| SITE FINAL FORM IDC | | | |

Waste Matrix Code Group Heterogeneous

Site Matrix Description

This waste stream was generated at Mound Laboratory. The records at Mound Laboratory and in the INEL-TCWCIS do not agree on the content. The waste most likely is graphite crucibles and electrodes, with some containers of liquid mercury.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|---|--|--|--|--|--|--|
| X | | | | | | |
|---|--|--|--|--|--|--|

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--|--|--|---|--|
| | | | X | |
|--|--|--|---|--|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE MD

| | | | | |
|---------|----------------------|-------------------------|--|---------------------|
| IN-W271 | CONTAINER: Drum | Container Matl: steel | Liner Type: <input type="checkbox"/> | Number Stored: 2 |
| | Type/Size: 55-gallon | Int. Vol/Ctnr: 0.208 m3 | Liner Material: <input type="checkbox"/> | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 415.6 | 2.2 | 764.4 |
| Aluminum-Based Metals/Alloys | 17.5 | 17.5 | 38.2 |
| Other Metals | 9.2 | 9.2 | 46.6 |
| Other Inorganic Materials | 31.7 | 0.0 | 812.5 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 4.8 | 0.0 | 4.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.4 m3 |
| End of 1993: | 0.4 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D009B
D009D

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 1.63E+01 Curies/m3 |
| Pu240 | 3.75E+01 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

WASTE STREAM

MWIR ID IN-W272

WIPP ID IN-W272

Local ID ID-EGG-137T-312

5000

MATRIX CODE

SITE FINAL FORM IDC

STREAM NAME

Debris Waste

DESCRIPTION

Nonmetal Molds and Crucibles (TRU): Coarse Graphite

Waste Matrix Code Group

Graphite

Site Matrix Description

Coarse graphite chunks.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 115

TRUCON CODE ID 115

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

X

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

X X

TSCA
Asbestos
PCBs
Other
N/A
Unknown

X

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE [MTRU] HANDLING [CH] GENERATOR SITE [RF]

| | | | | |
|---------|---|--|--------------------------------|---|
| IN-W272 | CONTAINER: Drum Type/Size: 55-gallon | Container Mat: steel Int. Vol/Ctr: 0.208 m3 | Liner Type: Liner Material: | Number Stored: 9 Number Projected: 0 |
|---------|---|--|--------------------------------|---|

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 187.0 | 162.0 | 211.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 41.8 | 32.2 | 51.4 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.9 | 1.9 m3 |
| End of 1993: | 1.9 | 1.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

F001
F002

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 1.76E+02 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|---|----------|-----------------|-------------|--|
| WASTE STREAM | MMIR ID | IN-W275 | STREAM NAME | Debris Waste |
| | WIPP ID | IN-W275 | | |
| | Local ID | ID-EGG-137T-301 | | |
| MATRIX CODE | | 5000 | DESCRIPTION | Nonmetal Molds and Crucibles (TRU): Graphite Cores |
| SITE FINAL FORM IDC | | | | |
| <p>Waste Matrix Code Group</p> <p>Site Matrix Description</p> <p>Graphite</p> <p>This waste stream, generated at the Rocky Flats Plant, is similar to graphite molds, content code 300. A graphite core is part of the shaped graphite mold to cast plutonium metal. Some graphite molds are also included in this content code. This content code has not been used since 1977. The graphite has broken into pieces, and some of the graphite has been scarfed or wire brushed to remove any above-discard deposits of plutonium</p> | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W275

CONTAINER: SWB overpack

Type/Size:

Container Matl: Steel

Int. Vol/Ctnr: 1.9m³

Liner Type:

Liner Material:

Number Stored: 2

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.1 | 0.1 | 0.1 |
| Other Inorganic Materials | 138.4 | 138.4 | 138.4 |
| Cellulosics | 3.6 | 3.6 | 3.6 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 5.5 | 5.5 | 5.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | 210.0 | 210.0 |
| Packaging Material, Plastic | 16.0 | 16.0 | 16.0 |

STORED TRU WASTE-ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 1.8 | 4.1 m ³ |
| End of 1993: | 1.8 | 4.1 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 2.38E-02 Curies/m ³ |
| Pu52 | 1.51E+01 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

F001

Comments

2 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ CH ☐ HANDLING ☐ GENERATOR SITE ☐ RF

IN-W275

CONTAINER: ☐ Drum
Type/Size: ☐ 55-gallon

Container Mat: ☐ steel
Int. Vol/Ctnr: ☐ 0.208 m3

Liner Type: ☐
Liner Material: ☐

Number Stored: ☐ 22
Number Projected: ☐ 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.3 | 0.3 | 0.3 |
| Other Inorganic Materials | 316.0 | 316.0 | 316.0 |
| Cellulosics | 8.2 | 8.2 | 8.2 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 12.6 | 12.6 | 12.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED
RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 4.6 | 4.6 m3 |
| End of 1993: | 4.6 | 4.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 5.42E-02 Curies/m3 |
| Pu52 | 3.45E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

F001

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|---------------------|----------|-----------------|-------------|--|
| WASTE STREAM | MWIR ID | IN-W276 | STREAM NAME | Debris Waste |
| | WIPP ID | IN-W276 | | |
| | Local ID | ID-EGG-137T-300 | DESCRIPTION | Nonmetal Molds and Crucibles (TRU): Graphite |
| MATRIX CODE | | 5000 | | |
| SITE FINAL FORM IDC | | | | |

Waste Matrix Code Group Graphite

Site Matrix Description

This waste stream, generated at the Rocky Flats Plant, consists of graphite molds used in casting plutonium metal. The waste may also include small amounts of surgical gloves. The graphite is in the form of broken mold pieces. Some of the graphite has been scarfed or wire-brushed to remove above-discard deposits of plutonium.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 115; 215A

TRUCON CODE ID 215A

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W276

CONTAINER: SWB overpack
Type/Size:

Container Mat: steel
Int. Vol/Ctnr: 1.9/m3

Liner Type:
Liner Material:

Number Stored: 132
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 133.6 | 67.9 | 204.9 |
| Cellulose | 2.9 | 0.0 | 4.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 3.3 | 1.4 | 4.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 109.7 | 250.5 m3 |
| End of 1993: | 109.7 | 250.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 6.35E-02 Curies/m3 |
| Pu52 | 1.23E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

- D022
- D028
- F001
- F002
- F003
- F005A
- F005A

Comments

132 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W276 CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208/m3

Liner Type:
Liner Material:

Number Stored: 1356
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 305.0 | 155.0 | 468.0 |
| Cellulosics | 6.7 | 0.0 | 9.8 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 7.4 | 3.3 | 10.9 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 282.0 | 282.0 m3 |
| End of 1993: | 282.0 | 282.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.45E-01 Curies/m3 |
| Pu52 | 2.82E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D022
D028
F001
F002
F003
F005A
F005A

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE MD

WASTE STREAM

MWIR ID IN-W280

WIPP ID IN-W280

Local ID ID-EGG-132T-803

5100

MATRIX CODE

SITE FINAL FORM IDC

STREAM NAME Metal Debris

DESCRIPTION

Metals (TRU): Metal, Equipment, Pipes, Valves, Etc.

Waste Matrix Code Group

Site Matrix Description

Uncategorized Metal

This waste comes from Mound Laboratory. It consists of stainless steel, carbon steel, and small amounts of aluminum-metal wastes in the form of valves, piping, wrenches, nuts, bolts, stainless steel tubing, spatulas, pans, hotplates, ringstands, etc. Limited amounts of combustible and noncombustible waste also present from content codes 810, 811, 812, 813, 814, 826, and 832. Content code 812 is spent ion-exchange resin and content code 832 is containers of liquid mercury. Most of the waste is metal waste that is primarily from D&D operations. Some of the metals were leached with nitric acid, ultrasonically cleaned and dried to remove above-discard amounts of plutonium.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste

Non-Defense TRU Waste

Commercial TRU Waste

Unknown

X

Mixed TRU

Non-Mixed TRU

Suspect Mixed TRU

Unknown

X

Research and Devel. Waste

Operations Waste

Residues

Decon and Decommissioning

Environmental Restoration

From Treatment of Waste

Maintenance

X X X X X

TSCA

Asbestos

PCBs

Other

N/A

Unknown

X

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ MD

IN-W280 CONTAINER: SWB overpack Type/Size: Container Mat: steel Int. Vol/Ctnr: 1.9m3 Liner Type: Liner Material: Number Stored: 12 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 182.0 | 1.0 | 334.7 |
| Aluminum-Based Metals/Alloys | 7.7 | 7.7 | 16.7 |
| Other Metals | 4.0 | 4.0 | 20.4 |
| Other Inorganic Materials | 13.9 | 0.0 | 355.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 2.1 | 0.0 | 2.1 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 9.9 | 22.6 m3 |
| End of 1993: | 9.9 | 22.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 4.03E-03 Curies/m3 |
| Pu238 | 2.84E+02 Curies/m3 |
| Pu239 | 1.97E+00 Curies/m3 |
| Pu83 | 1.15E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D009A
D009D

Comments

12 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE MD

IN-W280 CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208/m3

Liner Type:
Liner Material:

Number Stored: 123
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 415.6 | 2.2 | 764.4 |
| Aluminum-Based Metals/Alloys | 17.5 | 17.5 | 38.2 |
| Other Metals | 9.2 | 9.2 | 46.6 |
| Other Inorganic Materials | 31.7 | 0.0 | 812.5 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 4.8 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 4.8 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 25.6 | 25.6 m3 |
| End of 1993: | 25.6 | 25.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 9.21E-03 Curies/m3 |
| Pu238 | 6.49E+02 Curies/m3 |
| Pu239 | 4.50E+00 Curies/m3 |
| Pu83 | 2.63E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D009A
D009D

IN-W280 - 3

IN - 151

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MD

WASTE STREAM

MWIR ID IN-W281

WIPP ID IN-W281

Local ID ID-EGG-134T-824

S400

MATRIX CODE

SITE FINAL FORM IDC

STREAM NAME

Heterogeneous Debris

DESCRIPTION

Miscellaneous (Paper, Metal, Etc.) (TRU): Noncombustible Equipment Boxes

Waste Matrix Code Group

Site Matrix Description

Heterogeneous

This waste stream, generated at the Mound Laboratory, consists of large, noncombustible wastes such as tanks (stainless steel and tantalum), piping, ducts, conduit, electric motors, pumps, metallurgical presses, lathes, dissolvers, evaporators, furnaces, ladders, vacuum sweepers, 24 x 24 x 12 inch HEPA filters, fume hoods, gloveboxes, plexiglass glovebox windows, and floor tile. Limited amounts of combustible wastes (plastic tanks, fiberglass gloveboxes, plastic contamination control tents, etc.) are also included.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste

Non-Defense TRU Waste

Commercial TRU Waste

Unknown

Mixed TRU

Non-Mixed TRU

Suspect Mixed TRU

Unknown

X

Research and Devel. Waste

Operations Waste

Residues

Decon and Decommissioning

Environmental Restoration

From Treatment of Waste

Maintenance

X

X

X

TSCA

Asbestos

PCBs

Other

N/A

Unknown

X

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MD

IN-W281

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 1672

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 682.0 | 2.2 | 764.4 |
| Aluminum-Based Metals/Alloys | 28.7 | 17.5 | 38.2 |
| Other Metals | 15.1 | 9.2 | 46.6 |
| Other Inorganic Materials | 24.9 | 0.0 | 812.5 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 4.8 | 0.0 | 4.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 348.0 | 348.0 m3 |
| End of 1993: | 348.0 | 348.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.51E+01 Curies/m3 |
| Pu239 | 7.38E-02 Curies/m3 |
| Pu83 | 1.26E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

- D005A
- D006A
- D007A
- D008A
- D009A
- D010A
- D011A

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

| | | | | |
|-------------------------|----------|-----------------|-------------|---|
| WASTE STREAM | MWIR ID | IN-W283 | STREAM NAME | Heterogeneous Debris |
| | WIPP ID | IN-W283 | | |
| | Local ID | ID-EGG-134T-241 | DESCRIPTION | Miscellaneous (Paper, Metal, Etc.) (TRU): Americium Process Residue |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | | |
| Site Matrix Description | | | | |

This waste stream, generated at the Rocky Flats Plant, consists of piping, flanges, valves, tools, equipment, PVC piping, glassware (flasks, broken ion exchange columns, etc.), glass filters, PE bottles, leaded glovebox gloves, paper, and plastics. Wastes were shipped only in 1972 and 1973, from renovations of the americium recovery line. Some of the containers are lead-lined.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 125; 225A

TRUCON CODE ID 225A

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

X

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

X X X

TSCA Asbestos
PCBs
Other
N/A
Unknown

X

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W283

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 5
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 159.0 | 159.0 | 159.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 129.0 | 129.0 | 129.0 |
| Cellulosics | 13.5 | 13.5 | 13.5 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 81.9 | 81.9 | 81.9 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 131.0 | 131.0 |
| Packaging Material, Plastic | 37.0 | 37.0 | 37.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 1.0 | 1.0 m ³ |
| End of 1993: | 1.0 | 1.0 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu52 | 5.98E+01 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D001C
D002B
D008C
F002
F003

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE BC

WASTE STREAM

MWIR ID IN-W285
WIPP ID IN-W285
Local ID ID-EGG-134T-201
5400

MATRIX CODE

SITE FINAL FORM IDC

STREAM NAME

Heterogeneous Debris

DESCRIPTION

Miscellaneous (Paper, Metal, Etc.) (TRU): Noncombustible Solids

Waste Matrix Code Group

Site Matrix Description

Heterogeneous

This waste stream, generated at Battelle Columbus Laboratories, contains noncombustible items such as tools, crucibles, piping, valves, pieces of equipment, lead bricks, plexiglass, and filters.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

X

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

X X X X X X X

TSCA Asbestos
PCBs
Other
N/A
Unknown

X

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE BC

IN-W285

CONTAINER: SWB overpack

Type/Size:

Container Mat: Steel

Int. Vol/Ctnr: 1.9 m3

Liner Type:

Liner Material:

Number Stored: 19

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 42.1 | 0.0 | 715.8 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.7 |
| Other Metals | 0.0 | 0.0 | 9.9 |
| Other Inorganic Materials | 1.1 | 0.0 | 10.5 |
| Cellulose | 35.4 | 0.0 | 80.9 |
| Rubber | 3.2 | 0.0 | 7.2 |
| Plastics | 28.4 | 0.0 | 65.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 15.6 | 35.7 m3 |
| End of 1993: | 15.6 | 35.7 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 1.26E-01 Curies/m3 |
| U235 | 4.25E-05 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008C

Comments

19 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE BC

IN-W285

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: steel

Int. Vol/Ctnr: 0.208m3

Liner Type:

Liner Material:

Number Stored: 237

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1634.6 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.1 | 0.0 | 22.7 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulose | 80.9 | 0.0 | 184.8 |
| Rubber | 7.3 | 0.0 | 16.4 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 49.3 | 49.3 m3 |
| End of 1993: | 49.3 | 49.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 2.87E-01 Curies/m3 |
| U235 | 9.70E-05 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008C

IN-W285 - 3

IN - 158

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ AE

| | | | |
|--|--------------------------|--------------------|---|
| WASTE STREAM | MWIR ID IN-W287 | STREAM NAME | Metal Debris |
| | WIPP ID IN-W287 | | |
| | Local ID ID-EGG-134T-101 | DESCRIPTION | Miscellaneous (Paper, Metal, Etc.) (TRU): Cut Up Gloveboxes |
| MATRIX CODE | 5100 | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group Site Matrix Description Uncategorized Metal This waste stream, generated at Argonne National Laboratory-East, contains glovebox sections and associated equipment from decontamination and decommissioning operations. The waste is predominantly noncombustible. There may be some lead (EP toxic, waste code D008) present. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

☒ Defense TRU Waste
☐ Non-Defense TRU Waste
☐ Commercial TRU Waste
☐ Unknown

☒ Mixed TRU
☐ Non-Mixed TRU
☐ Suspect Mixed TRU
☐ Unknown

☒ Research and Devel. Waste
☐ Operations Waste
☐ Residues
☐ Decon and Decommissioning
☐ Environmental Restoration
☐ From Treatment of Waste
☐ Maintenance

☒ TSCA
☒ Asbestos
☐ PCBs
☐ Other
☐ N/A
☐ Unknown

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE AE

IN-W287

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 1019
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 213.2 | 44.2 | 368.4 |
| Aluminum-Based Metals/Alloys | 34.2 | 27.4 | 73.7 |
| Other Metals | 15.8 | 12.6 | 44.2 |
| Other Inorganic Materials | 38.9 | 0.0 | 141.1 |
| Cellulosics | 56.8 | 23.7 | 115.0 |
| Rubber | 0.6 | 0.3 | 2.4 |
| Plastics | 5.7 | 2.4 | 24.2 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 212.0 | 212.0 m ³ |
| End of 1993: | 212.0 | 212.0 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 1.99E-03 Curies/m ³ |
| Np237 | 7.89E-04 Curies/m ³ |
| Pu239 | 2.58E-01 Curies/m ³ |
| Pu240 | 3.07E+00 Curies/m ³ |
| Pu241 | 2.85E-01 Curies/m ³ |
| U235 | 1.24E-08 Curies/m ³ |
| U238 | 5.91E-05 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D008A

D008C

IN-W287 - 2

IN - 160

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF, AE

| | | | |
|-------------------------|---|-------------|---|
| WASTE STREAM | MWIR ID IN-W289 | STREAM NAME | Unknown Solids |
| | WIPP ID IN-W289 | DESCRIPTION | Miscellaneous (Paper, Metal, Etc.) (TRU); DDW Noncombustible Solids |
| | Local ID ID-EGG-134T-121 | | |
| | 8200 | | |
| MATRIX CODE | | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | Heterogeneous | | |
| Site Matrix Description | This waste is generated at Argonne National Laboratory-East and Rocky Flats Plant. The waste is derived from decontamination and disposal of facilities and ancillary systems. The composition of the waste is unknown. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF, AE

IN-W289

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 122
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 415.6 | 2.2 | 764.4 |
| Aluminum-Based Metals/Alloys | 17.5 | 17.5 | 38.2 |
| Other Metals | 9.2 | 9.2 | 46.6 |
| Other Inorganic Materials | 31.7 | 0.0 | 812.5 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 4.8 | 0.0 | 4.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 25.4 | 25.4 m ³ |
| End of 1993: | 25.4 | 25.4 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 4.67E-01 Curies/m ³ |
| Pu239 | 5.90E+00 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D004A
D005A
D006A
D007A
D008A
D009A
F001
F002
P015

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☒ MTRU ☐ CH ☐ AE GENERATOR SITE

| | | | | |
|--|----------|-----------------|-------------|---|
| WASTE STREAM | MWIR ID | IN-W291 | STREAM NAME | Debris Waste |
| | WIPP ID | IN-W291 | | |
| | Local ID | ID-EGG-134T-100 | DESCRIPTION | Miscellaneous (Paper, Metal, Etc.) (TRU): General Plant Waste |
| MATRIX CODE | | 5000 | | |
| SITE FINAL FORM IDC | | | | |
| <p>Waste Matrix Code Group</p> <p>Heterogeneous</p> <p>This waste stream, generated at Argonne National Laboratory-East, contains combustible and noncombustible items such as paper, rags, rubber gloves, plastic bottles, glassware, small tools, balances, and empty metal cans. The waste is usually separated into combustible and noncombustible streams. Prior to 1977 small amounts of absorbed organic wastes are included.</p> | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ TRUCON CODE ☐

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE AE

IN-W291

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 3073
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1634.6 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.1 | 0.0 | 22.7 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.3 | 0.0 | 16.4 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 639.0 | 639.0 m ³ |
| End of 1993: | 639.0 | 639.0 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 5.23E-01 Curies/m ³ |
| Np237 | 7.16E-05 Curies/m ³ |
| Pu239 | 2.17E-01 Curies/m ³ |
| Pu240 | 9.73E-01 Curies/m ³ |
| U235 | 2.43E-07 Curies/m ³ |
| U238 | 9.62E-07 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D001C

F003

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | |
|----------------------------|-----------------|---|--|
| WASTE STREAM | | STREAM NAME | |
| MWIR ID | IN-W294 | Metal Debris | |
| WIPP ID | IN-W294 | | |
| Local ID | ID-EGG-132T-481 | DESCRIPTION | |
| MATRIX CODE | 5100 | Metals (TRU): Leached Non Special Source Metal | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Uncategorized Metal | |
| Site Matrix Description | | This waste comes from the Rocky Flats Plant. It consists of the smaller pieces of the waste described under content code 480 that have been washed with water to recover plutonium. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 217C

TRUCON CODE ID 217C

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Rsearch and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W294

CONTAINER: SWB overpack

Type/Size:

Container Mat: steel

Int. Vol/Ctnr: 1.9 m3

Liner Type:

Liner Material:

Number Stored: 47

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 70.9 | 0.0 | 148.5 |
| Aluminum-Based Metals/Alloys | 4.2 | 0.0 | 21.1 |
| Other Metals | 53.4 | 0.0 | 208.9 |
| Other Inorganic Materials | 13.9 | 5.7 | 23.9 |
| Cellulosics | 0.0 | 0.0 | 0.1 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 7.2 | 1.9 | 17.2 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 38.5 | 87.9 m3 |
| End of 1993: | 38.5 | 87.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.30E-02 Curies/m3 |
| Pu52 | 1.01E+01 Curies/m3 |
| U235 | 8.82E-07 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008A
D008C
D022
F001
F002
F005

Comments

47 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

IN-W294 CONTAINER: Drum
Type/Size: 55-gallon
Container Matl: steel
Int. Vol/Ctnr: 0.208 m3
Liner Type:
Liner Material:
Number Stored: 1946
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 162.0 | 0.0 | 339.0 |
| Aluminum-Based Metals/Alloys | 9.6 | 0.0 | 48.1 |
| Other Metals | 122.0 | 0.0 | 477.0 |
| Other Inorganic Materials | 31.7 | 13.1 | 54.6 |
| Cellulosics | 0.0 | 0.0 | 0.2 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 16.4 | 4.4 | 39.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 404.8 | 404.8 m3 |
| End of 1993: | 404.8 | 404.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 7.53E-02 Curies/m3 |
| Pu52 | 2.31E+01 Curies/m3 |
| U235 | 2.02E-06 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

- D008A
- D008C
- D022
- F001
- F002
- F005

Comments

5% of this waste stream volume is classified as RH-TRU without current shielding. It is anticipated that the RH-TRU portion will be shipped as CH-TRU with internal shielding.

IN-W294 - 3

IN - 167

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|---------------------|----------|-----------------|-------------|--|
| WASTE STREAM | MWIR ID | IN-W296 | STREAM NAME | Metal Debris |
| | WIPP ID | IN-W296 | | |
| | Local ID | ID-EGG-132T-480 | DESCRIPTION | Metals (TRU): Non Special Source Metal |
| MATRIX CODE | | 5100 | | |
| SITE FINAL FORM IDC | | | | |

Waste Matrix Code Group
Site Matrix Description

Uncategorized Metal

The waste comes from Rocky Flats Plant. It consists of nonline- and line-generated wastes. The waste may be in the form of gloveboxes, glovebox windows, furnaces, lathes, drill presses, ducting, piping, angle iron, tanks, downdraft tables, part carriers, respirator filters, ultrasonic cleaners, control panels, electronic instrumentation, vacuum sweepers, pumps, motors, railing stairs, metal racks and trays, hotplates, empty metal produce and paint cans, carts, power tools (saws, drills, etc.), hand tools (wrenches, hammers, saws, chisels, gauges, etc.), chairs, desks, tables, typewriters, filing cabinets, crushed 55-gallon drums, etc. The waste may also include limited amounts of combustible waste.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 117; 217C

TRUCON CODE ID 217C

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W296

CONTAINER: SWB overpack

Container Mat: steel

Liner Type:

Number Stored: 62

Type/Size:

Int. Vol/Ctnr: 1.9m3

Liner Material:

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 25.7 | 0.0 | 116.5 |
| Aluminum-Based Metals/Alloys | 1.7 | 0.0 | 14.4 |
| Other Metals | 70.1 | 0.0 | 235.6 |
| Other Inorganic Materials | 8.2 | 0.0 | 26.1 |
| Cellulosics | 1.7 | 0.0 | 7.2 |
| Rubber | 0.8 | 0.0 | 4.3 |
| Plastics | 11.5 | 1.9 | 21.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 16.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 51.4 | 117.3 m3 |
| End of 1993: | 51.4 | 117.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.11E-02 Curies/m3 |
| Np237 | 1.34E-06 Curies/m3 |
| Pu52 | 2.35E+00 Curies/m3 |
| U235 | 4.89E-08 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008A
D008C
D028
D029
F001
F002
F003
F005A
F005A

Comments

62 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE HANDLING GENERATOR SITE

IN-W296 CONTAINER: Type/Size:

Container Matl: Liner Type: Liner Material:

Number Stored: Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 58.7 | 0.0 | 266.0 |
| Aluminum-Based Metals/Alloys | 3.9 | 0.0 | 32.8 |
| Other Metals | 160.0 | 0.0 | 538.0 |
| Other Inorganic Materials | 18.8 | 0.0 | 59.5 |
| Cellulosics | 3.9 | 0.0 | 16.4 |
| Rubber | 1.8 | 0.0 | 9.8 |
| Plastics | 26.3 | 4.4 | 49.2 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

RATES OF WASTE GENERATION

| Projected | Final Form |
|---------------------|------------|
| End of 1992: 4668.1 | 4668.1 m3 |
| End of 1993: 4668.1 | 4668.1 m3 |
| 1994: 0.0 | 0.0 m3/yr |
| 1995: 0.0 | 0.0 m3/yr |
| 1996: 0.0 | 0.0 m3/yr |
| 1997: 0.0 | 0.0 m3/yr |
| 1998-2002: 0.0 | 0.0 m3/yr |
| 2003-2022: 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.54E-02 Curies/m3 |
| Np237 | 3.07E-06 Curies/m3 |
| Pu52 | 5.36E+00 Curies/m3 |
| U235 | 1.12E-07 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008A
D008C
D028
D029
F001
F002
F003
F005A
F005A

Comments

5% of this waste stream volume is classified as RH-TRU without current shielding. It is anticipated that the RH-TRU portion will be shipped as CH-TRU with internal shielding.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☒ CH ☐ GENERATOR SITE ☐ RF

WASTE STREAM

MWIR ID IN-W298
WIPP ID IN-W298
Local ID ID-EGG-132T-320

STREAM NAME Metal Debris

MATRIX CODE

5100

DESCRIPTION Metals (TRU): Tantalum

SITE FINAL FORM IDC

Waste Matrix Code Group

Uncategorized Metal

Site Matrix Description

This waste comes from the Rocky Flats Plant. It consists of used tantalum crucibles, funnels, funnel inserts, and pour rods.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 117; 217B

TRUCON CODE ID 117

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒ ☐ ☐ ☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒ ☐ ☐ ☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒ ☒ ☒ ☐ ☐ ☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐ ☐ ☐ ☒ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W298

CONTAINER: SWB overpack

Type/Size:

Container Matl: steel

Int. Vol/Ctnr: 1.9m³

Liner Type:

Liner Material:

Number Stored: 22

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 81.0 | 0.0 | 172.1 |
| Aluminum-Based Metals/Alloys | 2.8 | 0.0 | 10.0 |
| Other Metals | 17.8 | 0.0 | 87.6 |
| Other Inorganic Materials | 9.2 | 0.0 | 21.5 |
| Cellulosics | 6.0 | 0.0 | 26.8 |
| Rubber | 0.6 | 0.0 | 4.0 |
| Plastics | 6.0 | 0.0 | 8.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 15.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 18.2 | 41.5 m ³ |
| End of 1993: | 18.2 | 41.5 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 5.27E-01 Curies/m ³ |
| Pu52 | 3.88E+01 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D008A
D008C
F001
F002

Comments

22 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W298 CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 271
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 185.0 | 0.0 | 393.0 |
| Aluminum-Based Metals/Alloys | 6.3 | 0.0 | 22.9 |
| Other Metals | 40.7 | 0.0 | 200.0 |
| Other Inorganic Materials | 20.9 | 0.0 | 49.2 |
| Cellulosics | 13.7 | 0.0 | 61.2 |
| Rubber | 1.4 | 0.0 | 9.2 |
| Plastics | 13.6 | 0.0 | 20.1 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 56.4 | 56.4 m3 |
| End of 1993: | 56.4 | 56.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.20E+00 Curies/m3 |
| Pu52 | 8.86E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

- D008A
- D008C
- F001
- F002

Comments

7% of this waste stream volume is classified as RH-TRU without current shielding. It is anticipated that the RH-TRU portion will be shipped as CH-TRU with internal shielding.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W300

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 7276

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 256.1 | 256.1 | 256.1 |
| Aluminum-Based Metals/Alloys | 27.8 | 27.8 | 27.8 |
| Other Metals | 24.7 | 24.7 | 24.7 |
| Other Inorganic Materials | 29.3 | 2.3 | 29.3 |
| Cellulosics | 7.4 | 0.0 | 45.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 15.1 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 67.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1513.0 | 1513.0 m3 |
| End of 1993: | 1513.0 | 1513.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.22E-01 Curies/m3 |
| Pu52 | 1.29E+01 Curies/m3 |
| U235 | 3.58E-07 Curies/m3 |
| U238 | 4.45E-10 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008A
D008C
F001
F002
P015

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ BT

| | | | | |
|--|----------|-----------------|-------------|---|
| WASTE STREAM | WMIR ID | IN-W302 | STREAM NAME | Unknown Solids |
| | WIPP ID | IN-W302 | | |
| | Local ID | ID-EGG-132T-020 | DESCRIPTION | Metals (TRU): Noncompressible, Noncombustible |
| MATRIX CODE | | 8200 | | |
| SITE FINAL FORM IDC | | | | |
| <p>Waste Matrix Code Group</p> <p>Site Matrix Description</p> <p>Heterogeneous</p> <p>This waste stream, generated at Bettis Atomic Power Laboratory, contains noncompressible and noncombustible items such as absolute filters, solidified chemical waste, contaminated metal equipment, furnace brick, and highly contaminated glovebox equipment. Metal scrap could include bars, sheet, fixtures, small equipment tools, etc. made of carbon steel, stainless steel, inconel, aluminum, copper, brass and zirconium. Chemical wastes include spent chemical solutions and associated solids from the isotope and isotopic dilution analysis of nuclear fuel specimens. The residues were neutralized before being either mixed with absorbent material or solidified.</p> | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE BT

IN-W302

CONTAINER: SWB overpack

Type/Size:

Container Mat: steel

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 36

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 42.1 | 0.0 | 715.8 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.7 |
| Other Metals | 0.0 | 0.0 | 9.9 |
| Other Inorganic Materials | 1.1 | 0.0 | 10.5 |
| Cellulosics | 35.4 | 0.0 | 80.9 |
| Rubber | 3.2 | 0.0 | 7.2 |
| Plastics | 28.4 | 0.0 | 65.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 29.7 | 67.8 m3 |
| End of 1993: | 29.7 | 67.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.46E+00 Curies/m3 |
| Pu239 | 6.24E-01 Curies/m3 |
| U233 | 5.82E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002B

F001

F002

Comments

36 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE BT

IN-W302 CONTAINER: Drum Type/Size: 55-gallon

Container Mat: steel Int. Vol/Ctnr: 0.208 m3

Liner Type: Liner Material:

Number Stored: 367 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1634.6 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.1 | 0.0 | 22.7 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.3 | 0.0 | 16.4 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 76.3 | 76.3 m3 |
| End of 1993: | 76.3 | 76.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 7.89E-01 Curies/m3 |
| Pu239 | 1.42E-01 Curies/m3 |
| U233 | 1.33E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

- D002B
- F001
- F002

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE MD

WASTE STREAM

MWIR ID IN-W304

WIPP ID IN-W304

Local ID ID-EGG-134TN-825

MATRIX CODE

5190

SITE FINAL FORM IDC

STREAM NAME Equipment

DESCRIPTION

Waste Matrix Code Group Uncategorized Metal

Site Matrix Description

Waste primarily consists of noncombustible wastes such as small tanks, dissolvers, motors, pumps, piping, small valves, tools, hotplates, presses, grinders, metallurgical polishers, ringstands, concrete, floor tile, sheet metal, vacuum sweeper filters, sweeper hose, and glass. Limited amounts of combustible wastes, such as plastic tanks, will be present.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste

Non-Defense TRU Waste

Commercial TRU Waste

Unknown

X

Mixed TRU

Non-Mixed TRU

Suspect Mixed TRU

Unknown

X

Research and Devel. Waste

Operations Waste

Residues

Decon and Decommissioning

Environmental Restoration

From Treatment of Waste

Maintenance

X X X X

TSCA

Asbestos

PCBs

Other

N/A

Unknown

X

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE MD

IN-W304

CONTAINER: SWB overpack

Type/Size:

Container Mat: steel

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 13

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 106.4 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 19.4 | 0.0 | 0.0 |
| Other Inorganic Materials | 41.6 | 0.0 | 0.0 |
| Cellulosics | 15.1 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.9 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 16.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 10.6 | 24.2 m3 |
| End of 1993: | 10.6 | 24.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 2.27E+01 Curies/m3 |
| Pu239 | 1.33E-01 Curies/m3 |
| Pu240 | 2.77E-02 Curies/m3 |
| Pu52 | 1.38E-03 Curies/m3 |
| Pu83 | 2.77E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

13 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

IN-W304 CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m3
Liner Type:
Liner Material:

Number Stored: 269
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 243.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 44.4 | 0.0 | 0.0 |
| Other Inorganic Materials | 95.1 | 0.0 | 0.0 |
| Cellulosics | 34.4 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 2.1 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 55.9 | 55.9 m3 |
| End of 1993: | 55.9 | 55.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 5.17E+01 Curies/m3 |
| Pu239 | 3.05E-01 Curies/m3 |
| Pu240 | 6.33E-02 Curies/m3 |
| Pu52 | 3.15E-03 Curies/m3 |
| Pu83 | 6.32E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

IN-W304 - 3

IN - 181

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE MD

| | | | | |
|-------------------------|----------|------------------|-------------|---|
| WASTE STREAM | MWIR ID | IN-W305 | STREAM NAME | Plastic, Tygon, Manipulator Boots, etc. |
| | WIPP ID | IN-W305 | | |
| | Local ID | ID-EGG-114TN-804 | DESCRIPTION | |
| MATRIX CODE | | 5300 | | |
| SITE FINAL FORM IDC | | Mound | | |
| Waste Matrix Code Group | | Combustible | | |
| Site Matrix Description | | | | Waste consists primarily of various types of plastics (PVC, polyethylene, Tygon, etc.) in the form of tubing, piping, sample vials, gaskets, manipulator boots, etc. Limited amounts of other combustible wastes may be included. |

| | |
|---|-------------|
| NO MIGRATION VARIANCE PETITION ASSIGNMENT | TRUCON CODE |
|---|-------------|

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE MD

IN-W305

CONTAINER: SWB

Type/Size:

Container Mat: steel

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 0

Number Projected: 16

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 24.2 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 2.6 | 0.0 | 0.0 |
| Other Inorganic Materials | 5.5 | 0.0 | 0.0 |
| Cellulose | 13.7 | 0.0 | 0.0 |
| Rubber | 17.5 | 0.0 | 0.0 |
| Plastics | 42.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 16.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 13.1 | 29.8 m3 |
| End of 1993: | 13.1 | 29.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 4.47E+01 Curies/m3 |

Comments

Min and max weights are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE MD

IN-W305

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: Steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 161

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 55.3 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 6.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 12.5 | 0.0 | 0.0 |
| Cellulosics | 31.3 | 0.0 | 0.0 |
| Rubber | 39.9 | 0.0 | 0.0 |
| Plastics | 95.9 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

Comments

Min and max weights are unknown.

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.02E+02 Curies/m3 |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 33.5 | 33.5 m3 |
| End of 1993: | 33.5 | 33.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

IN-W305 - 3

IN - 184

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ CH

GENERATOR SITE RF

| | | | | |
|---------------------|----------|------------------|-------------|-----------------------------------|
| WASTE STREAM | MWIR ID | IN-W306.1 | STREAM NAME | Unknown Solids |
| | WIPP ID | IN-W306.1 | | |
| | Local ID | ID-EGG-287T-9999 | DESCRIPTION | Uncategorized (TRU): Pre 73 Drums |
| MATRIX CODE | | 8200 | | |
| SITE FINAL FORM IDC | | RFP | | |

Waste Matrix Code Group

Site Matrix Description

Solidified Inorganics

This waste stream was received prior to 1973. As container specific information was not entered into the database prior to 1973, these wastes are uncategorized. It is expected to be similar to other Rocky Flats wastes received since 1973.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|---|
| X |
| |
| |
| |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|---|
| X |
| |
| |
| |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|---|
| X |
| X |
| |
| X |
| |
| |
| |

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| |
|---|
| |
| |
| |
| X |
| |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W306.1

CONTAINER: SWB overpack
Type/Size:

Container Mat:
Int. Vol/Ctnr:

Liner Type:
Liner Material:

Number Stored: 44
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 214.1 | 12.6 | 330.5 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 91.5 | 44.2 | 227.4 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 9.2 | 20.9 m3 |
| End of 1993: | 9.2 | 20.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Number stored (44) is the number of SWBs as a result of overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W306.1

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 1451
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 489.0 | 28.8 | 754.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 208.9 | 101.0 | 519.2 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 301.8 | 301.8 m3 |
| End of 1993: | 301.8 | 301.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

5.7% of the waste stored is currently characterized as RH-TRU if internal shielding is not used. It is anticipated that all waste in this waste stream will be categorized as CH-TRU at the time of shipment to WIPP utilizing minimal internal shielding as necessary. For WTWBIR purposes, all of the waste in this waste stream is assumed to be CH-TRU.

IN-W306.1 - 3

IN - 187

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ CH ☐ GENERATOR SITE ☐ RF

WASTE STREAM

WMIR ID IN-W306.2
WIPP ID IN-W306.2
Local ID ID-EGG-287T-9999

MATRIX CODE

8200
RFP

SITE FINAL FORM IDC

STREAM NAME Unknown Solids

DESCRIPTION

Uncategorized (TRU): Pre 73 Drums

Waste Matrix Code Group

Site Matrix Description

Uncategorized Metal

This waste stream was received prior to 1973. As container specific information was not entered into the database prior to 1973, these wastes are uncategorized. It is expected to be similar to other Rocky Flats wastes received since 1973.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

FINAL WASTE FORM DESCRIPTORS:

TRUCON CODE

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒ ☐ ☐ ☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒ ☐ ☐ ☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒ ☒ ☐ ☒ ☐ ☐ ☐

TSCA
Asbestos
PCBs
Other
N/A
Unknown

☐ ☐ ☐ ☒ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W306.2

CONTAINER: SWB overpack
Type/Size:

Container Matl:
Int. Vol/Ctnr:

1.9/m3

Liner Type:
Liner Material:

Number Stored: 44
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 112.1 | 112.1 | 112.1 |
| Aluminum-Based Metals/Alloys | 12.2 | 12.2 | 12.2 |
| Other Metals | 10.8 | 10.8 | 10.8 |
| Other Inorganic Materials | 12.8 | 1.0 | 12.8 |
| Cellulosics | 3.2 | 0.0 | 19.8 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 6.6 | 0.0 | 29.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 9.2 | 20.9 m3 |
| End of 1993: | 9.2 | 20.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Number stored (44) is the number of SWBs as a result of overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

IN-W306.2 CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 1451
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 256.1 | 256.1 | 256.1 |
| Aluminum-Based Metals/Alloys | 27.8 | 27.8 | 27.8 |
| Other Metals | 24.7 | 24.7 | 24.7 |
| Other Inorganic Materials | 29.3 | 2.3 | 29.3 |
| Cellulosics | 7.4 | 0.0 | 45.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 15.1 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 67.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 301.8 | 301.8 m3 |
| End of 1993: | 301.8 | 301.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

5.7% of the waste stored is currently characterized as RH-TRU if internal shielding is not used. It is anticipated that all waste in this waste stream will be categorized as CH-TRU at the time of shipment to WIPP utilizing minimal internal shielding as necessary. For WTWBIR purposes, all of the waste in this waste stream is assumed to be CH-TRU.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | | |
|--|--|-----------------|------------------|--------------------|-----------------------------------|
| WASTE STREAM | | MWIR ID | IN-W306.3 | STREAM NAME | Unknown Solids |
| | | WIPP ID | IN-W306.3 | | |
| | | Local ID | ID-EGG-287T-9999 | DESCRIPTION | Uncategorized (TRU): Pre 73 Drums |
| MATRIX CODE | | | 8200 | | |
| SITE FINAL FORM IDC | | | RFP | | |
| <p>Waste Matrix Code Group</p> <p>Site Matrix Description</p> <p>Heterogeneous</p> <p>This waste stream was received prior to 1973. As container specific information was not entered into the database prior to 1973, these wastes are uncategorized. It is expected to be similar to other Rocky Flats wastes received since 1973.</p> | | | | | |
| <p>NO MIGRATION VARIANCE PETITION ASSIGNMENT</p> <p>TRUCON CODE</p> | | | | | |

FINAL WASTE FORM DESCRIPTORS:

| | | | |
|--|---|--|--|
| <div> <input checked="" type="checkbox"/> Defense TRU Waste <input type="checkbox"/> Non-Defense TRU Waste <input type="checkbox"/> Commercial TRU Waste <input type="checkbox"/> Unknown </div> | <div> <input checked="" type="checkbox"/> Mixed TRU <input type="checkbox"/> Non-Mixed TRU <input type="checkbox"/> Suspect Mixed TRU <input type="checkbox"/> Unknown </div> | <div> <input checked="" type="checkbox"/> Research and Devel. Waste <input checked="" type="checkbox"/> Operations Waste <input type="checkbox"/> Residues <input checked="" type="checkbox"/> Decon and Decommissioning <input type="checkbox"/> Environmental Restoration <input type="checkbox"/> From Treatment of Waste <input type="checkbox"/> Maintenance </div> | <div> <input type="checkbox"/> TSCA <input type="checkbox"/> Asbestos <input type="checkbox"/> PCBs <input type="checkbox"/> Other <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Unknown </div> |
|--|---|--|--|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W306.3 CONTAINER: SWB overpack
Type/Size:

Container Matl:
Int. Vol/Ctnr: 1.9m3

Liner Type:
Liner Material:

Number Stored: 44
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 42.1 | 0.0 | 715.8 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.7 |
| Other Metals | 0.0 | 0.0 | 9.9 |
| Other Inorganic Materials | 1.1 | 0.0 | 10.5 |
| Cellulosics | 35.4 | 0.0 | 80.9 |
| Rubber | 3.2 | 0.0 | 7.2 |
| Plastics | 28.4 | 0.0 | 65.2 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 9.2 | 20.9 m3 |
| End of 1993: | 9.2 | 20.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Number stored (44) is the number of SWBs as a result of overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE IRF

IN-W306.3

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 1451
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1634.6 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.1 | 0.0 | 22.7 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulose | 80.9 | 0.0 | 184.8 |
| Rubber | 7.3 | 0.0 | 16.4 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 301.8 | 301.8 m3 |
| End of 1993: | 301.8 | 301.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

5.7% of the waste stored is currently characterized as RH-TRU if internal shielding is not used. It is anticipated that all waste in this waste stream will be categorized as CH-TRU at the time of shipment to WIPP utilizing minimal internal shielding as necessary. For WTWBIR purposes, all of the waste in this waste stream is assumed to be CH-TRU.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|---------------------|----------|------------------|-------------|-----------------------------------|
| WASTE STREAM | MWIR ID | IN-W306.4 | STREAM NAME | Unknown Solids |
| | WIPP ID | IN-W306.4 | | |
| | Local ID | ID-EGG-287T-9999 | DESCRIPTION | Uncategorized (TRU): Pre 73 Drums |
| MATRIX CODE | | 8200 | | |
| SITE FINAL FORM IDC | | RFP | | |

Waste Matrix Code Group

Site Matrix Description

Filter

This waste stream was received prior to 1973. As container specific information was not entered into the database prior to 1973, these wastes are uncategorized. It is expected to be similar to other Rocky Flats wastes received since 1973.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

TSCA
Asbestos
PCBs
Other
N/A
Unknown

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

IN-W306.4 CONTAINER: SWB overpack
Type/Size:

Container Matl:
Int. Vol/Ctnr: 1.9 m3

Liner Type:
Liner Material:

Number Stored: 44
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 73.7 | 21.1 | 219.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 9.2 | 20.9 m3 |
| End of 1993: | 9.2 | 20.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Number stored (44) is the number of SWBs as a result of overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W306.4

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 1451
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 168.3 | 48.1 | 500.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 301.8 | 301.8 m3 |
| End of 1993: | 301.8 | 301.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

5.7% of the waste stored is currently characterized as RH-TRU if internal shielding is not used. It is anticipated that all waste in this waste stream will be categorized as CH-TRU at the time of shipment to WIPP utilizing minimal internal shielding as necessary. For WTWBIR purposes, all of the waste in this waste stream is assumed to be CH-TRU.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ IN, RF ☐

| | | | | |
|---|----------|-----------------|-------------|---|
| WASTE STREAM | MWIR ID | IN-W308 | STREAM NAME | Unknown Solids |
| | WIPP ID | IN-W308 | | |
| | Local ID | ID-EGG-287T-000 | DESCRIPTION | Uncategorized (TRU): Not Recorded - Unknown |
| MATRIX CODE | | 8200 | | |
| SITE FINAL FORM IDC | | RFP | | |
| Waste Matrix Code Group Site Matrix Description Unknown This waste stream, generated at the INEL, contains waste retrieved from shallow land burial during the INEL Early Waste Retrieval (EWR) and the Initial Drum Retrieval (IDR) projects. Most of these wastes are believed to have been initially generated at the Rocky Flats Plant. No content information is available. The stream is believed to consist of various types of waste generated by plutonium and nonplutonium operations. Any presence of hazardous wastes is unknown at this time. | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE IN, RF

IN-W308

CONTAINER: SWB overpack

Type/Size:

Container Matl:

Int. Vol/Ctnr: 1.9 m3

Liner Type:

Liner Material:

Number Stored: 377

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 16.0 | 0.0 | 0.0 |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 312.8 | 713.2 m3 |
| End of 1993: | 312.8 | 713.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.73E-01 Curies/m3 |
| Pu238 | 2.06E-02 Curies/m3 |
| Pu239 | 1.44E-01 Curies/m3 |
| Pu52 | 1.19E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

Comments

Number stored (377) is the number of SWBs as a result of overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE IN, RF

IN-W308

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Cntr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 4466
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 929.0 | 929.0 m3 |
| End of 1993: | 929.0 | 929.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 8.53E-01 Curies/m3 |
| Pu238 | 4.71E-02 Curies/m3 |
| Pu239 | 3.29E-01 Curies/m3 |
| Pu52 | 2.72E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

Comments

6.7% of the waste stored is currently characterized as RH-TRU if internal shielding is not used. It is anticipated that all waste in this waste stream will be categorized as CH-TRU at the time of shipment to WIPP utilizing minimal internal shielding as necessary. For WTWBIR purposes, all of the waste in this waste stream is assumed to be CH-TRU.

IN-W308 - 3

IN - 199

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☒ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | |
|----------------------------|-----------------|---|--|
| <u>WASTE STREAM</u> | | <u>STREAM NAME</u> | |
| MWIR ID | IN-W309 | Organic Setups | |
| WIPP ID | IN-W309 | | |
| Local ID | ID-EGG-158T-003 | | |
| | 3114 | | |
| | RFP | | |
| <u>MATRIX CODE</u> | | <u>DESCRIPTION</u> | |
| <u>SITE FINAL FORM IDC</u> | | This waste stream contains liquid organic wastes generated at RFP. About 47% of the organic waste stream is lathe coolant, which is 60% Texaco Regal oil and 40% carbon tetrachloride. About 10% of the organic waste stream is trichloroethane. The remainder is other organic wastes. These liquid wastes were mixed with calcium silicate to form a grease or paste-like material. | |
| Waste Matrix Code Group | | Solidified Organics | |
| Site Matrix Description | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 212

TRUCON CODE ID 212

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W309

CONTAINER: SWB overpack

Type/Size:

Container Matl:

Int. Vol/Ctnr: 1.9 m3

Liner Type:

Liner Material:

Number Stored: 120

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 4.9 | 0.0 | 17.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 4.6 | 0.0 | 11.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 386.2 | 303.0 | 469.4 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 99.1 | 227.2 m3 |
| End of 1993: | 99.1 | 227.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.05E-02 Curies/m3 |
| Pu52 | 1.34E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D005A
D011A
F001
F002
F004
P015

Comments

Number stored (120) is the number of SWBs as a result of overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W309

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Cntr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 1232
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 11.3 | 0.0 | 40.6 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 10.6 | 0.0 | 25.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 882.0 | 692.0 | 1072.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 256.0 | 256.0 m3 |
| End of 1993: | 256.0 | 256.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 5.19E-02 Curies/m3 |
| Pu52 | 3.05E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D005A
D011A
F001
F002
F004
P015

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☒ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|-------------------------|----------|-----------------|-------------|--|
| WASTE STREAM | MWIR ID | IN-W311 | STREAM NAME | Salt Waste |
| | WIPP ID | IN-W311 | | |
| | Local ID | ID-EGG-146T-409 | DESCRIPTION | Salts (TRU): Molten Salts - 30% Unpulverized |
| MATRIX CODE | | 3140 | | |
| SITE FINAL FORM IDC | | RFP | | |
| Waste Matrix Code Group | | | | |
| Site Matrix Description | | | | |

This waste was generated at the Rocky Flats Plant. Very little information is available about this content code. The composition of the salt itself is not specified.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W311 CONTAINER: SWB overpack Type/Size: Container Matl: 1.9 m3 Liner Type: Liner Material: Number Stored: 2 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 12.6 | 0.0 | 25.3 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 51.2 | 10.0 | 92.8 |
| Other Inorganic Materials | 21.8 | 20.8 | 22.8 |
| Cellulosics | 5.7 | 0.0 | 11.5 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 4.5 | 2.9 | 6.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 6.0 | | |

Comments

Number stored (2) is the number of SWBs as a result of overpacking 4 drums/SWB.

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 4.97E+01 Curies/m3 |
| Pu52 | 7.07E+02 Curies/m3 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.8 | 4.2 m3 |
| End of 1993: | 1.8 | 4.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D028
F001

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W311

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 23

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 28.8 | 0.0 | 57.7 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 117.0 | 22.9 | 212.0 |
| Other Inorganic Materials | 49.8 | 47.5 | 52.0 |
| Cellulosics | 13.1 | 0.0 | 26.2 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 10.2 | 6.6 | 13.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 4.7 | 4.7 m3 |
| End of 1993: | 4.7 | 4.7 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D028

F001

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.14E+02 Curies/m3 |
| Pu52 | 2.66E+02 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

WASTE STREAM

WMIR ID ☐ IN-W312
WIPP ID ☐ IN-W312
Local ID ☐ ID-EGG-146T-124
3140
RFP

STREAM NAME Salt Waste

MATRIX CODE

3140
RFP

DESCRIPTION

Salts (TRU): Pyrochemical Salt Waste

SITE FINAL FORM IDC

Waste Matrix Code Group
Site Matrix Description

Salt Waste

Pyrochemical salt consists of used chloride salts from pyrochemical processes such as electrorefining, molten salt extraction or direct oxide reduction. Very little additional information is available about this content code.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 124

TRUCON CODE ID 124

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒ ☐ ☐ ☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒ ☐ ☐ ☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒ ☒ ☐ ☒ ☐ ☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐ ☐ ☐ ☒ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE IRF

IN-W312 CONTAINER: SWB overpack Type/Size: Container Mat: 1.9m3 Liner Type: Liner Material: Number Stored: 1 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 99.8 | 23.1 | 254.9 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 6.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.9 | 2.0 m3 |
| End of 1993: | 0.9 | 2.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 1.57E+02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D003D

Comments

Number stored (1) is the number of SWBs as a result of overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W312

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: Steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 11

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 228.0 | 52.8 | 582.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2.3 | 2.3 m3 |
| End of 1993: | 2.3 | 2.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 3.58E+02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D003D

IN-W312 - 3

IN - 208

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

| | | | | | | | | |
|---------------------|----------|-----------------|-------------|--|----------|----|----------------|----|
| WASTE STREAM | MMIR ID | IN-W314 | WASTE TYPE | MTRU | HANDLING | CH | GENERATOR SITE | RF |
| | WIPP ID | IN-W314 | STREAM NAME | Salt Waste | | | | |
| | Local ID | ID-EGG-146T-414 | DESCRIPTION | Salts (TRU): Direct Oxide Reduction Salt | | | | |
| MATRIX CODE | | 3140 | | | | | | |
| SITE FINAL FORM IDC | | RFP | | | | | | |

Waste Matrix Code Group
Site Matrix Description

This waste, generated at the Rocky Flats Plant, consists of chunks of salt and ceramic. No other information is available.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | |
|---|--|--|--|--|--|
| X | | | | | |
| X | | | | | |
| | | | | | |
| X | | | | | |
| | | | | | |

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| | | | | | |
|--|--|--|--|---|--|
| | | | | | |
| | | | | X | |

IN-W314 - 1

IN - 209

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

IN-W314

CONTAINER: SWB overpack

Type/Size:

Container Matl:

Int. Vol/Ctnr:

Liner Type:

Liner Material:

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 9.7 | 9.7 | 9.7 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 65.2 | 65.2 | 65.2 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 15.3 | 15.3 | 15.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | 210.0 | 210.0 |
| Packaging Material, Plastic | 16.0 | 16.0 | 16.0 |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.3 | 0.7 m3 |
| End of 1993: | 0.3 | 0.7 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.69E-02 Curies/m3 |
| Pu52 | 1.35E-02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

F001

Comments

Number stored (4) is the number of SWBs as a result of overpacking 4 drums/SWB.

IN-W314 - 2

IN - 210

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

IN-W314

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:
Number Stored: 4
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 22.1 | 22.1 | 22.1 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 149.0 | 149.0 | 149.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 35.0 | 35.0 | 35.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 131.0 | 131.0 |
| Packaging Material, Plastic | 37.0 | 37.0 | 37.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.8 | 0.8 m3 |
| End of 1993: | 0.8 | 0.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 8.44E-02 Curies/m3 |
| Pu52 | 3.09E+02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

F001

IN-W314 - 3

IN - 211

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE IN

| | | | | |
|---------------------|----------|-----------------|-------------|-------------|
| WASTE STREAM | MWIR ID | IN-W322 | STREAM NAME | Sample Fuel |
| | WIPP ID | IN-W322 | | |
| | Local ID | ID-EGG-144T-154 | DESCRIPTION | |
| MATRIX CODE | | 5190 | | |
| SITE FINAL FORM IDC | | | | |

Waste Matrix Code Group

Site Matrix Description

Uncategorized Metal

Waste consists of actinide neutron sources, a tadrum needle, small vials of fuel, and metal containers of experimental fuel capsules.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

TSCA Asbestos
PCBs
Other
N/A
Unknown

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE IN

IN-W322

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 9

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.9 | 1.9 m3 |
| End of 1993: | 1.9 | 1.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 1.46E+01 Curies/m3 |
| Pu240 | 3.04E+00 Curies/m3 |
| U235 | 3.95E-04 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Waste material weights are unknown for this waste stream.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING RH GENERATOR SITE IN, AW

| | | | |
|-------------------------|--|-------------|--|
| WASTE STREAM | MWIR ID IN-W323 | STREAM NAME | Predominantly Combustible Debris |
| | WIPP ID IN-W323 | DESCRIPTION | Radioactive Sources (TRU): Combustible Lab Waste |
| | Local ID ID-EGG-144T-153 | | |
| MATRIX CODE | 5440 | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | Heterogeneous | | |
| Site Matrix Description | This waste stream was generated at the Argonne National Laboratory-West and NRF at the INEL. Most of the waste is organic and combustible materials including paper, wood, PVC and plastic containers and items, rubber gaskets and gloves, leather, rags, towels, Q-tips, tubing, filter media, abrasive media and metal pieces. Small residuals of moderators and fuel are trapped on the filters. Drums of contact-handled waste are stored at the Transuranic Storage Area (TSA). Drums of remote-handled waste are stored at the intermediate level transuranic facility (ILTSF). | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|---|-------------------|---|---------------------------|---|------|---|----------|--|
| Defense TRU Waste | X | Mixed TRU | X | Research and Devel. Waste | X | TSCA | X | Asbestos | |
| Non-Defense TRU Waste | | Non-Mixed TRU | | Operations Waste | X | | | PCBs | |
| Commercial TRU Waste | | Suspect Mixed TRU | | Residues | | | | Other | |
| Unknown | | Unknown | | Decon and Decommissioning | X | | | N/A | |
| | | | | Environmental Restoration | | | | Unknown | |
| | | | | From Treatment of Waste | | | | | |
| | | | | Maintenance | | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE IN, AW

IN-W323

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 10
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 36.8 | 0.0 | 63.2 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 2.6 | 0.0 | 10.5 |
| Cellulosics | 213.2 | 61.6 | 357.9 |
| Rubber | 2.4 | 1.6 | 7.2 |
| Plastics | 21.3 | 4.7 | 57.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 1.9 | 1.9 m ³ |
| End of 1993: | 1.9 | 1.9 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu238 | 2.17E+00 Curies/m ³ |
| Pu239 | 4.01E-01 Curies/m ³ |
| Pu241 | 4.65E+00 Curies/m ³ |
| U235 | 1.54E-04 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D008C

IN-W323 - 2

IN - 215

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ CH ☐ GENERATOR SITE ☐ MD

WASTE STREAM

MWIR ID IN-W325

WIPP ID IN-W325

Local ID

ID-EGG-288T-815

5300

Mound

MATRIX CODE

SITE FINAL FORM IDC

STREAM NAME

Unknown Solids

DESCRIPTION

Unknown (TRU): Classified Parts

Waste Matrix Code Group

Site Matrix Description

Combustible

This waste stream was generated at Mound Laboratory.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste

Non-Defense TRU Waste

Commercial TRU Waste

Unknown

☒

Mixed TRU

Non-Mixed TRU

Suspect Mixed TRU

Unknown

☒

Research and Devel. Waste

Operations Waste

Residues

Decon and Decommissioning

Environmental Restoration

From Treatment of Waste

Maintenance

☒

TSCA

Asbestos

PCBs

Other

N/A

Unknown

☒

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE MD

| | | | | |
|----------------------|------------------------|----------------------|-------------|---------------------|
| IN-W325 | CONTAINER: Drum | Container Mat: Steel | Liner Type: | Number Stored: 2 |
| Type/Size: 55-gallon | Int. Vol/Ctnr: 0.208m3 | Liner Material: | | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.3 | 0.0 | 17.9 |
| Other Inorganic Materials | 11.1 | 0.0 | 17.3 |
| Cellulosics | 63.0 | 63.0 | 706.7 |
| Rubber | 19.3 | 19.3 | 194.4 |
| Plastics | 191.8 | 158.7 | 706.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.4 m3 |
| End of 1993: | 0.4 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| PU238 | 3.23E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☒ HANDLING ☐ CH ☐ GENERATOR SITE ☐ MD

| | | | | |
|---------------------|----------|-----------------|-------------|--|
| WASTE STREAM | MWIR ID | IN-W327 | STREAM NAME | Combustible Debris |
| | WIPP ID | IN-W327 | | |
| | Local ID | ID-EGG-288T-847 | DESCRIPTION | Unknown (TRU): Low Specific Activity < 100 nCi/g Combustible |
| MATRIX CODE | | 5300 | | |
| SITE FINAL FORM IDC | | Mound | | |

Waste Matrix Code Group

Site Matrix Description

Combustible
This waste stream is from Mound Laboratory and consists of nonline generated combustible wastes such as plastic sheeting, paper, reagents, gloves (rubber and cloth), plastic bottles, wood, paper suits, and shoe covers. About 75% of the waste is compacted. The waste may be either dry or damp.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | | |
|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

IN-W327 - 1

IN - 218

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MID

IN-W327

CONTAINER: SWB overpack

Type/Size:

Container Matl:

Int. Vol/Ctnr: 1.9 m3

Liner Type:

Liner Material:

Number Stored: 2

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.1 | 0.0 | 7.8 |
| Other Inorganic Materials | 4.9 | 0.0 | 7.6 |
| Cellulosics | 27.6 | 27.6 | 309.5 |
| Rubber | 8.5 | 8.5 | 85.1 |
| Plastics | 84.0 | 69.5 | 309.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.2 | 2.7 m3 |
| End of 1993: | 1.2 | 2.7 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 9.75E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

Comments

Number stored (2) is the number of SWBs as a result of overpacking 4 drums/SWB.

IN-W327 - 2

IN - 219

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE MD

IN-W327

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 15
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average |
|------------------------------|---------|
| Iron-based Metals/Alloys | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 |
| Other Metals | 0.3 |
| Other Inorganic Materials | 11.1 |
| Cellulosics | 63.0 |
| Rubber | 19.3 |
| Plastics | 191.8 |
| Solidified, Inorganic matrix | 0.0 |
| Solidified, Organic matrix | 0.0 |
| Soils | 0.0 |
| Packaging Materials, Steel | 131.0 |
| Packaging Material, Plastic | 37.0 |

| Lower Limit | Upper Limit |
|-------------|-------------|
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 17.9 |
| 0.0 | 17.3 |
| 63.0 | 706.7 |
| 19.3 | 194.4 |
| 158.7 | 706.7 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| Projected | Final Form |
|------------------|------------|
| End of 1992: 3.1 | 3.1 m3 |
| End of 1993: 3.1 | 3.1 m3 |
| 1994: 0.0 | 0.0 m3/yr |
| 1995: 0.0 | 0.0 m3/yr |
| 1996: 0.0 | 0.0 m3/yr |
| 1997: 0.0 | 0.0 m3/yr |
| 1998-2002: 0.0 | 0.0 m3/yr |
| 2003-2022: 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity
Pu238 2.23E+01 Curies/m3

TYPICAL EPA CODES APPLICABLE

UNK

IN-W327 - 3

IN - 220

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ MD

| | | | | | |
|--------------------------------|--|---|-----------------|--------------------|---|
| <u>WASTE STREAM</u> | | MWIR ID | IN-W329 | <u>STREAM NAME</u> | Heterogeneous Debris |
| | | WIPP ID | IN-W329 | | |
| | | Local ID | ID-EGG-288T-848 | <u>DESCRIPTION</u> | Unknown (TRU): Low Specific Activity < 100 nCi/g Noncombustible |
| <u>MATRIX CODE</u> | | | 5400 | | |
| <u>SITE FINAL FORM IDC</u> | | | Mound | | |
| <u>Waste Matrix Code Group</u> | | Heterogeneous | | | |
| <u>Site Matrix Description</u> | | This waste stream, generated at Mound Laboratory, consists of nonline generated noncombustible wastes such as tools, pipe, equipment, metal, glass, concrete, plaster, bricks, and dirt. Limited amounts of combustible wastes such as paper, rags, etc. are also included. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MD

IN-W329

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: steel

Int. Vol/Ctnr: 0.208m3

Liner Type:

Liner Material:

Number Stored: 6

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 415.6 | 2.2 | 764.4 |
| Aluminum-Based Metals/Alloys | 17.5 | 17.5 | 38.2 |
| Other Metals | 9.2 | 9.2 | 46.6 |
| Other Inorganic Materials | 31.7 | 0.0 | 812.5 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 4.8 | 0.0 | 4.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.1 | 1.1 m3 |
| End of 1993: | 1.1 | 1.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.22E+02 Curies/m3 |
| Pu239 | 5.34E-02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ MD

| | | | | |
|-------------------------|----------|-----------------|-------------|--|
| WASTE STREAM | MWIR ID | IN-W330 | STREAM NAME | Plastic/Rubber Debris |
| | WIPP ID | IN-W330 | | |
| | Local ID | ID-EGG-288T-801 | DESCRIPTION | Unknown (TRU): Plastic, Tygon, Manipulator Boots, etc. |
| MATRIX CODE | | 5310 | | |
| SITE FINAL FORM IDC | | Mound | | |
| Waste Matrix Code Group | | | | |
| Site Matrix Description | | | | |

This waste stream, generated at Mound Laboratory, consists of various types of plastics (PVC, PE tygon, etc.) in the form of tubing, piping, sample vials, gaskets, manipulator boots, etc. Limited amounts of other combustible wastes from content codes 801 and 802 may also be included. One drum contains content code 832, liquid mercury. The wastes are primarily from D&D activities at the plutonium processing and research buildings. Waste was shipped on 7 1977. Limited amounts of waste may be damp.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

| | |
|---------------------------|-------------------------------------|
| Research and Devel. Waste | <input checked="" type="checkbox"/> |
| Operations Waste | <input checked="" type="checkbox"/> |
| Residues | <input type="checkbox"/> |
| Decon and Decommissioning | <input checked="" type="checkbox"/> |
| Environmental Restoration | <input type="checkbox"/> |
| From Treatment of Waste | <input type="checkbox"/> |
| Maintenance | <input type="checkbox"/> |

| | |
|----------|-------------------------------------|
| TSCA | <input checked="" type="checkbox"/> |
| Asbestos | <input type="checkbox"/> |
| PCBs | <input type="checkbox"/> |
| Other | <input checked="" type="checkbox"/> |
| N/A | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE MD

| | | | | | |
|---------|-------------------------|-----------------|-----------------|-------------------|---|
| IN-W330 | CONTAINER: SWB overpack | Container Matl: | Liner Type: | Number Stored: | 3 |
| | Type/Size: | Int. Vol/Ctnr: | Liner Material: | Number Projected: | 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.1 | 0.0 | 7.8 |
| Other Inorganic Materials | 4.9 | 0.0 | 7.6 |
| Cellulosics | 27.6 | 27.6 | 309.5 |
| Rubber | 8.5 | 8.5 | 85.1 |
| Plastics | 84.0 | 69.5 | 309.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORDED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2.1 | 4.7 m3 |
| End of 1993: | 2.1 | 4.7 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 2.79E+01 Curies/m3 |
| Pu83 | 3.89E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

Comments

Number stored (3) is the number of SWBs as a result of overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MD

IN-W330

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 26

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.3 | 0.0 | 17.9 |
| Other Inorganic Materials | 11.1 | 0.0 | 17.3 |
| Cellulosics | 63.0 | 63.0 | 706.7 |
| Rubber | 19.3 | 19.3 | 194.4 |
| Plastics | 191.8 | 158.7 | 706.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 5.4 | 5.4 m3 |
| End of 1993: | 5.4 | 5.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

UNK

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 6.36E+01 Curies/m3 |
| Pu83 | 8.89E-01 Curies/m3 |

IN-W330 - 3

IN - 225

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ BC

| | | | | |
|-------------------------|----------|--|-------------|-------------------------------------|
| WASTE STREAM | WMIR ID | IN-W332 | STREAM NAME | Solidified Process Residues |
| | WIPP ID | IN-W332 | | |
| | Local ID | ID-EGG-288T-204 | DESCRIPTION | Unknown (TRU): Solidified Solutions |
| MATRIX CODE | | 3150 | | |
| SITE FINAL FORM IDC | | Battelle Columb | | |
| Waste Matrix Code Group | | Solidified Inorganics | | |
| Site Matrix Description | | This waste comes from the Battelle Columbus Labs. It is a turco soap decontamination solution (used to decontaminate glove boxes from a Pu lab) which is solidified in a plaster-of-paris. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ TRUCON CODE ☐

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

| | |
|---------------------------|-------------------------------------|
| Research and Devel. Waste | <input checked="" type="checkbox"/> |
| Operations Waste | <input checked="" type="checkbox"/> |
| Residues | <input type="checkbox"/> |
| Decon and Decommissioning | <input checked="" type="checkbox"/> |
| Environmental Restoration | <input type="checkbox"/> |
| From Treatment of Waste | <input type="checkbox"/> |
| Maintenance | <input type="checkbox"/> |

| | |
|----------|-------------------------------------|
| TSCA | <input type="checkbox"/> |
| Asbestos | <input type="checkbox"/> |
| PCBs | <input type="checkbox"/> |
| Other | <input checked="" type="checkbox"/> |
| N/A | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE BC

IN-W332

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 4
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 394.2 | 173.1 | 528.8 |
| Cellulose | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 399.0 | 173.1 | 528.8 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.8 | 0.8 m3 |
| End of 1993: | 0.8 | 0.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.07E+01 Curies/m3 |
| Pu239 | 7.79E-02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

IN-W332 - 2

IN - 227

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING CH GENERATOR SITE BC

| | | | |
|---|-----------------|-------------------------------------|--|
| WASTE STREAM | | STREAM NAME | |
| MWIR ID | IN-W334 | Debris Waste | |
| WIPP ID | IN-W334 | | |
| Local ID | ID-EGG-288T-203 | Unknown (TRU): Paper, Metals, Glass | |
| MATRIX CODE | | | |
| 5000 | | | |
| SITE FINAL FORM IDC | | | |
| Battelle Columb | | | |
| Waste Matrix Code Group Heterogeneous Site Matrix Description This waste stream, generated at Battelle Columbus Laboratories, contains a mixture of combustible and noncombustible items in roughly equal proportions. Combustible items include paper and paper products. Noncombustibles are primarily metal and some glass. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Rsearch and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE BC

IN-W334

CONTAINER: SWB overpack

Type/Size:

Container Matl:

Int. Vol/Ctnr: 1.9 m3

Liner Type:

Liner Material:

Number Stored: 2

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 42.1 | 0.0 | 715.8 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.7 |
| Other Metals | 0.0 | 0.0 | 9.9 |
| Other Inorganic Materials | 1.1 | 0.0 | 10.5 |
| Cellulosics | 35.4 | 0.0 | 80.9 |
| Rubber | 3.2 | 0.0 | 7.2 |
| Plastics | 28.4 | 0.0 | 65.2 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.5 | 3.5 m3 |
| End of 1993: | 1.5 | 3.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 4.09E-01 Curies/m3 |
| U235 | 2.11E-04 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

Comments

Number stored (2) is the number of SWBs as a result of overpacking 4 drums/SWB.

IN-W334 - 2

IN - 229

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ BC

IN-W334

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m³

Liner Type: ☐
Liner Material: ☐

Number Stored: 19
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1634.6 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.1 | 0.0 | 22.7 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.3 | 0.0 | 16.4 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 4.0 | 4.0 m ³ |
| End of 1993: | 4.0 | 4.0 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu239 | 9.33E-01 Curies/m ³ |
| U235 | 4.82E-04 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

UNK

IN-W334 - 3

IN - 230

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☒ HANDLING ☐ CH ☐ GENERATOR SITE ☐ BC

| | | | | |
|---------------------|----------|-----------------|-------------|-----------------------------------|
| WASTE STREAM | MWIR ID | IN-W336 | STREAM NAME | Combustible Debris |
| | WIPP ID | IN-W336 | | |
| | Local ID | ID-EGG-288T-202 | DESCRIPTION | Unknown (TRU): Combustible Solids |
| MATRIX CODE | | 5300 | | |
| SITE FINAL FORM IDC | | Battelle Columb | | |

Waste Matrix Code Group

Site Matrix Description

Combustible
This waste stream, generated at Battelle Columbus Laboratories, contains such combustible items as wood, plastic suits, nylon reinforced plastic tent structures, shoe covers, rubber gloves, and air hose. The waste is from decontamination and deactivation of the plutonium laboratory.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | |
|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE BC

IN-W336

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 20
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 2.9 | 0.0 | 7.2 |
| Cellulosics | 575.6 | 105.8 | 961.5 |
| Rubber | 55.2 | 55.2 | 163.5 |
| Plastics | 165.6 | 105.8 | 288.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 4.1 | 4.1 m3 |
| End of 1993: | 4.1 | 4.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 1.48E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

Comments

The weights per container in the MID for boxes are identical to the weights per container for drums. I'd rather use the same kg/m3. (Chuck Edinborough)

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE IN

| | | | |
|-------------------------|--|-------------|---------------------------------|
| WASTE STREAM | MMIR ID IN-W337 | STREAM NAME | Unknown Solids |
| | WIPP ID IN-W337 | | |
| | Local ID ID-EGG-288T-200 | DESCRIPTION | Unknown (TRU): Americium Solids |
| MATRIX CODE | 8200 | | |
| SITE FINAL FORM IDC | INEL | | |
| Waste Matrix Code Group | Unknown | | |
| Site Matrix Description | This waste stream was generated at the INEL. Additional information is not available at this time. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|---|
| X |
| |
| |
| |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|---|
| X |
| |
| |
| |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|---|
| X |
| X |
| |
| X |
| |
| |

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| |
|---|
| |
| |
| X |
| |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE IN

IN-W337

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 1

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

UNK

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ AW

| | | | | | |
|--------------------------------|--|---|--|--|--|
| WASTE STREAM | | MWIR ID IN-W338 | | STREAM NAME Unknown Solids | |
| | | WIPP ID IN-W338 | | | |
| | | Local ID ID-EGG-288T-163 | | | |
| | | MATRIX CODE 8200 | | | |
| | | SITE FINAL FORM IDC ANL-W | | | |
| | | | | DESCRIPTION Unknown (TRU): ANL-W Analytical Chemistry Laboratory Cold-Line Absorbed Liquid, Misc., Hardware | |
| Waste Matrix Code Group | | Unknown | | | |
| Site Matrix Description | | There is no content information on this code, which was generated at INEL | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

| | |
|---------------------------|-------------------------------------|
| Research and Devel. Waste | <input type="checkbox"/> |
| Operations Waste | <input checked="" type="checkbox"/> |
| Residues | <input type="checkbox"/> |
| Decon and Decommissioning | <input checked="" type="checkbox"/> |
| Environmental Restoration | <input type="checkbox"/> |
| From Treatment of Waste | <input type="checkbox"/> |
| Maintenance | <input type="checkbox"/> |

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

| | |
|----------|-------------------------------------|
| TSCA | <input type="checkbox"/> |
| Asbestos | <input type="checkbox"/> |
| PCBs | <input type="checkbox"/> |
| Other | <input checked="" type="checkbox"/> |
| N/A | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE AW

IN-W338

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 6

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED

| RATES OF WASTE GENERATION | Projected | Final Form |
|---------------------------|-----------|------------|
| End of 1992: | 1.3 | 1.3 m3 |
| End of 1993: | 1.3 | 1.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1998: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 4.68E-01 Curies/m3 |
| U235 | 1.17E-04 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ CH ☐ GENERATOR SITE ☐ AW, IN

| | | | |
|-------------------------|--|-------------|--|
| WASTE STREAM | MWIR ID IN-W339 | STREAM NAME | Unknown Solids |
| | WIPP ID IN-W339 | DESCRIPTION | Unknown (TRU): ANL-W FMF EFL ZR-U Fuel Casting Alloys Residues |
| MATRIX CODE | Local ID ID-EGG-288T-162 | | |
| | 8200 | | |
| SITE FINAL FORM IDC | ANL-W | | |
| Waste Matrix Code Group | Unknown | | |
| Site Matrix Description | There is no content information for this code, which includes waste from INEL. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒ ☐ ☐ ☐ ☐
 Non-Defense TRU Waste ☐ ☐ ☐ ☐ ☐
 Commercial TRU Waste ☐ ☐ ☐ ☐ ☐
 Unknown ☐ ☐ ☐ ☐ ☐

Mixed TRU ☒ ☐ ☐ ☐ ☐
 Non-Mixed TRU ☐ ☐ ☐ ☐ ☐
 Suspect Mixed TRU ☐ ☐ ☐ ☐ ☐
 Unknown ☐ ☐ ☐ ☐ ☐

☒ ☐ ☐ ☐ ☐

Research and Devel. Waste ☒ ☐ ☐ ☐ ☐
 Operations Waste ☒ ☐ ☐ ☐ ☐
 Residues ☒ ☐ ☐ ☐ ☐
 Decon and Decommissioning ☐ ☐ ☐ ☐ ☐
 Environmental Restoration ☐ ☐ ☐ ☐ ☐
 From Treatment of Waste ☐ ☐ ☐ ☐ ☐
 Maintenance ☐ ☐ ☐ ☐ ☐

TSCA Asbestos ☐ ☐ ☐ ☐ ☐
 PCBs ☐ ☐ ☐ ☐ ☐
 Other ☐ ☐ ☐ ☐ ☐
 N/A ☐ ☐ ☐ ☐ ☐
 Unknown ☐ ☐ ☐ ☐ ☐

☐ ☐ ☐ ☒ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ AW, IN ☐

IN-W339 CONTAINER: SWB overpack
Type/Size:

Container Matl: Liner Type: Number Stored: 3
Int. Vol/Ctr: 1.9 m3 Liner Material: Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2.4 | 5.5 m3 |
| End of 1993: | 2.4 | 5.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

UNK

Comments

Number stored (3) is the number of SWBs as a result of overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ AW, IN

IN-W339

CONTAINER: ☐ Drum
Type/Size: ☐ 55-gallon

Container Matl: ☐ Steel
Int. Vol/Ctnr: ☐ 0.208 m3

Liner Type: ☐
Liner Material: ☐

Number Stored: ☐ 30
Number Projected: ☐ 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 6.3 | 6.3 m3 |
| End of 1993: | 6.3 | 6.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 1.10E+01 Curies/m3 |
| Pu240 | 4.49E-02 Curies/m3 |
| U235 | 8.29E-04 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

IN-W339 - 3

IN - 239

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE AW, IN

WASTE STREAM

MWIR ID IN-W341

WIPP ID IN-W341

Local ID ID-EGG-288T-160

8200

ANL-W

MATRIX CODE

SITE FINAL FORM IDC

STREAM NAME Unknown Solids

DESCRIPTION

Unknown (TRU): ANL-W HFEF Analytical Chemistry and Metallographic Combustibles

Waste Matrix Code Group

Site Matrix Description

Unknown

There is no content information for this code, which includes waste from INEL

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste

Non-Defense TRU Waste

Commercial TRU Waste

Unknown

Mixed TRU

Non-Mixed TRU

Suspect Mixed TRU

Unknown

X

Research and Devel. Waste

Operations Waste

Residues

Decon and Decommissioning

Environmental Restoration

From Treatment of Waste

Maintenance

X X X X

TSCA

Asbestos

PCBs

Other

N/A

Unknown

X

IN-W341 - 1

IN - 240

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE JAW, IN

IN-W341

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: Steel

Int. Vol/Ctnr: 0.208m3

Liner Type:

Liner Material:

Number Stored: 1

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 9.40E+00 Curies/m3 |
| U235 | 1.32E-03 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ IN

| | | | | |
|--|----------|-----------------|--------------------|--------------------------------------|
| WASTE STREAM | MWIR ID | IN-W342 | STREAM NAME | Unknown Solids |
| | WIPP ID | IN-W342 | | |
| | Local ID | ID-EGG-288T-157 | DESCRIPTION | Unknown (TRU): Miscellaneous Sources |
| MATRIX CODE | | 8200 | | |
| SITE FINAL FORM IDC | | INEL | | |
| Waste Matrix Code Group | | | | |
| Site Matrix Description | | | | |
| Unknown | | | | |
| This waste stream was generated at the INEL. Additional information is not available at this time. | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE IN

IN-W342

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208m3

Liner Type:

Liner Material:

Number Stored: 2

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.4 m3 |
| End of 1993: | 0.4 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

UNK

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 7.48E+00 Curies/m3 |
| Ci252 | 5.60E-02 Curies/m3 |
| Pu239 | 6.46E-02 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☒ TRU

HANDLING ☒ CH

GENERATOR SITE IN

| | | | | |
|--|----------|-----------------|-------------|--------------------------|
| WASTE STREAM | MWIR ID | IN-W345 | STREAM NAME | Debris Waste |
| | WIPP ID | IN-W345 | | |
| | Local ID | ID-EGG-288T-155 | DESCRIPTION | Unknown (TRU): TRU Scrap |
| MATRIX CODE | | 5000 | | |
| SITE FINAL FORM IDC | | INEL | | |
| Waste Matrix Code Group | | | | |
| Site Matrix Description | | | | |
| Heterogeneous | | | | |
| This waste stream, generated at the Idaho National Engineering Laboratory, consists of a plastic glove box, a hydraulic pump containing oil, vacuum pump, centrifuges, tools, and experimental fuel capsules. The presence of hazardous materials is not known, but some absorbed oil is likely. | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE IN

IN-W345

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: steel

Int. Vol/Ctnr: 0.208m³

Liner Type:

Liner Material:

Number Stored: 70

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1634.6 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.1 | 0.0 | 22.7 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.3 | 0.0 | 16.4 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 14.6 | 14.6 m ³ |
| End of 1993: | 14.6 | 14.6 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 5.98E+00 Curies/m ³ |
| Pu238 | 1.66E+00 Curies/m ³ |
| Pu239 | 1.35E+00 Curies/m ³ |
| Pu240 | 8.59E-01 Curies/m ³ |
| Th232 | 3.89E-05 Curies/m ³ |
| U235 | 1.79E-05 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

UNK

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE AE

| | | | |
|--------------------------------|-----------------|---|--|
| WASTE STREAM | | STREAM NAME | |
| MWIR ID | IN-W347 | Absorbed Aqueous Liquids | |
| WIPP ID | IN-W347 | | |
| Local ID | ID-EGG-288T-102 | | |
| MATRIX CODE | | DESCRIPTION | |
| 3113 | | Unknown (TRU): Absorbed Liquids | |
| SITE FINAL FORM IDC | | | |
| ANL-E | | | |
| Waste Matrix Code Group | | Solidified Inorganics | |
| Site Matrix Description | | This waste comes from Argonne National Laboratory-East. It consists of liquids adjusted to Ph 10 using NaOH which are then absorbed in vermiculite. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

TSCA
Asbestos
PCBs
Other
N/A
Unknown

X
X
X
X
X

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ AE

IN-W347

CONTAINER: SWB overpack

Type/Size:

Container Matl:

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 4

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 44.2 | 44.2 | 44.2 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 94.7 | 73.7 | 113.7 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 3.5 | 8.0 m3 |
| End of 1993: | 3.5 | 8.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.57E-02 Curies/m3 |
| Pu239 | 5.36E-01 Curies/m3 |
| Pu240 | 9.81E-01 Curies/m3 |
| Th232 | 8.08E-08 Curies/m3 |
| U235 | 2.61E-07 Curies/m3 |
| U238 | 2.78E-06 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

Comments

Number stored (4) is the number of SWBs as a result of overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU HANDLING CH GENERATOR SITE AE

IN-W347

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 244
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 101.0 | 101.0 | 101.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 216.3 | 168.3 | 259.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 50.8 | 50.8 m3 |
| End of 1993: | 50.8 | 50.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.58E-02 Curies/m3 |
| Pu239 | 1.22E+00 Curies/m3 |
| Pu240 | 2.24E+00 Curies/m3 |
| Th232 | 1.85E-07 Curies/m3 |
| U235 | 5.97E-07 Curies/m3 |
| U238 | 6.34E-06 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

IN-W347 - 3

IN - 248

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE MTRU HANDLING RH GENERATOR SITE AE

| | | | | |
|---|----------|-----------------|-------------|---|
| WASTE STREAM | MWIR ID | IN-W349 | STREAM NAME | Unknown Solids |
| | WIPP ID | IN-W349 | | |
| | Local ID | ID-EGG-288T-107 | DESCRIPTION | Unknown (TRU): TRU-Remote Handled Waste |
| MATRIX CODE | | 8200 | | |
| SITE FINAL FORM IDC | | ANL-E | | |
| Waste Matrix Code Group Unknown | | | | |
| Site Matrix Description There is no content information on this code, which was generated at ANL-E. | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|----------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | Asbestos |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | PCBs |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | Other |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | N/A |
| | | | | Environmental Restoration | <input type="checkbox"/> | | Unknown |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE AE

IN-W349

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: Steel

Int. Vol/Ctnr: 0.208 m³

Liner Type:

Liner Material:

Number Stored: 31

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 6.4 | 6.4 m ³ |
| End of 1993: | 6.4 | 6.4 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu239 | 9.43E-02 Curies/m ³ |
| Pu240 | 6.05E-02 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

UNK

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ AE

| | | | |
|--|-----------------|---|--|
| WASTE STREAM | | STREAM NAME | Unknown Solids |
| MWIR ID | IN-W350 | DESCRIPTION | Unknown (TRU): Special Source Material |
| WIPP ID | IN-W350 | | |
| Local ID | ID-EGG-288T-106 | | |
| MATRIX CODE | 8200 | | |
| SITE FINAL FORM IDC | ANL-E | | |
| Waste Matrix Code Group | | Unknown | |
| Site Matrix Description | | There is no content information on this code, which was generated at ANL-E. | |
| NO MIGRATION VARIANCE PETITION ASSIGNMENT | | TRUCON CODE | |

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE [MTRU]

HANDLING [CH]

GENERATOR SITE [AE]

IN-W350

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Cntr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 1
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1998: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 5.74E+01 Curies/m3 |
| Pu240 | 1.76E+02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ MTRU ☒ HANDLING ☐ CH ☐ GENERATOR SITE ☐ AE

| | | | | |
|--|----------|-----------------|-------------|------------------------------|
| WASTE STREAM | MMIR ID | IN-W351 | STREAM NAME | Debris Waste |
| | WIPP ID | IN-W351 | | |
| | Local ID | ID-EGG-288T-105 | DESCRIPTION | Unknown (TRU): Empty Bottles |
| MATRIX CODE | | 5000 | | |
| SITE FINAL FORM IDC | | ANL-E | | |
| Waste Matrix Code Group | | | | |
| Site Matrix Description | | | | |
| Heterogeneous | | | | |
| This waste stream, generated at Argonne National Laboratory-East, consists of PE and glass bottles used to transport liquid liquid wastes. | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE AE

IN-W351

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 7
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 4.8 | 0.0 | 14.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 4.8 | 0.0 | 19.2 |
| Cellulosics | 287.7 | 53.4 | 432.7 |
| Rubber | 3.3 | 1.4 | 8.7 |
| Plastics | 36.0 | 2.9 | 60.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.5 | 1.5 m3 |
| End of 1993: | 1.5 | 1.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 1.75E+00 Curies/m3 |
| Pu240 | 6.01E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE TRU HANDLING CH GENERATOR SITE BT

| | | | | |
|-------------------------|----------|-----------------------|-------------|--|
| WASTE STREAM | MMWR ID | IN-W353 | STREAM NAME | Solidified Solutions |
| | WIPP ID | IN-W353 | | |
| | Local ID | ID-EGG-158TN-050 | DESCRIPTION | None available. (INEL) content code is also titled "solidified solutions." |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | Bettis | | |
| Waste Matrix Code Group | | Solidified Inorganics | | |
| Site Matrix Description | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|----------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | Asbestos |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | PCBs |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input checked="" type="checkbox"/> | | Other |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | N/A |
| | | | | Environmental Restoration | <input type="checkbox"/> | | Unknown |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE BT

IN-W353

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 1
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 461.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 4.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Np237 | 3.33E-04 Curies/m3 |
| Pu239 | 1.20E-01 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|-------------------------|----------|------------------|-------------|---------------------------|
| WASTE STREAM | MMIR ID | IN-W354 | STREAM NAME | Salt Waste |
| | WIPP ID | IN-W354 | | |
| | Local ID | ID-EGG-146TN-412 | DESCRIPTION | Salts (TRU): Gibson Salts |
| MATRIX CODE | | 3140 | | |
| SITE FINAL FORM IDC | | RFP | | |
| Waste Matrix Code Group | | | | |
| Site Matrix Description | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 224A

TRUCON CODE ID 224A

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

IN-W354

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: Steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 1

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 298.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 4.24E+01 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|-------------------------|----------|------------------|-------------|-----------------------------------|
| WASTE STREAM | MWIR ID | IN-W355 | STREAM NAME | Salt Waste |
| | WIPP ID | IN-W355 | | |
| | Local ID | ID-EGG-146TN-411 | DESCRIPTION | Salts (TRU): Electrorefining Salt |
| MATRIX CODE | | 3140 | | |
| SITE FINAL FORM IDC | | RFP | | |
| Waste Matrix Code Group | | Salt Waste | | |
| Site Matrix Description | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 114; 224A

TRUCON CODE ID 114; 224A

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒

Non-Defense TRU Waste ☐

Commercial TRU Waste ☐

Unknown ☐

Mixed TRU ☐

Non-Mixed TRU ☐

Suspect Mixed TRU ☐

Unknown ☐

☐

☒

☐

☐

Research and Devel. Waste ☒

Operations Waste ☒

Residues ☐

Decon and Decommissioning ☒

Environmental Restoration ☐

From Treatment of Waste ☐

Maintenance ☐

TSCA ☐

Asbestos ☐

PCBs ☐

Other ☐

N/A ☐

Unknown ☐

☐

☐

☒

☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

IN-W355

CONTAINER: SWB overpack

Type/Size:

Container Matl:

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 1

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 147.4 | 2.9 | 193.7 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 16.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form: |
|--------------|-----------|-------------|
| End of 1992: | 0.4 | 0.8 m3 |
| End of 1993: | 0.4 | 0.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 9.37E+01 Curies/m3 |

Comments

Number stored (1) is the number of SWBs as a result of overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

IN-W355 CONTAINER: Drum Type/Size: 55-gallon
 Container Mat: steel Int. Vol/Ctnr: 0.208 m3
 Liner Type: Liner Material: Number Stored: 5
 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 336.7 | 6.7 | 442.3 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.9 | 0.9 m3 |
| End of 1993: | 0.9 | 0.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 2.14E+02 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|---------------------|----------|------------------|-------------|--|
| WASTE STREAM | MMIR ID | IN-W356 | STREAM NAME | Salt Waste |
| | WIPP ID | IN-W356 | | |
| | Local ID | ID-EGG-146TN-410 | DESCRIPTION | Salts (TRU): Molten Salts - 30% Pulverized |
| MATRIX CODE | | 3140 | | |
| SITE FINAL FORM IDC | | RFP | | |

Waste Matrix Code Group
Site Matrix Description

| |
|------------|
| Salt Waste |
|------------|

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 224A

TRUCON CODE ID 224A

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

IN-W356

CONTAINER: SWB overpack

Type/Size:

Container Mat: 1.9 m3

Int. Vol/Ctnr:

Liner Type:

Liner Material:

Number Stored: 2

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 197.9 | 52.5 | 273.7 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 16.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.3 | 3.0 m3 |
| End of 1993: | 1.3 | 3.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 6.65E+00 Curies/m3 |
| Pu52 | 9.36E+00 Curies/m3 |

Comments

Number stored (2) is the number of SWBs as a result of overpacking 4 drums/SWB.

IN-W356 - 2

IN - 263

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

IN-W356 CONTAINER: Drum Type/Size: 55-gallon

Container Mat: steel Int. Vol/Ctnr: 0.208 m3

Liner Type: Liner Material:

Number Stored: 16 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 452.0 | 120.0 | 625.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 3.3 | 3.3 m3 |
| End of 1993: | 3.3 | 3.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.52E+01 Curies/m3 |
| Pu52 | 2.14E+01 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE

| | | | | | |
|--|--|-----------------|------------------|----------------------|---|
| <u>WASTE STREAM</u> | | <u>MWIR ID</u> | IN-W358 | <u>STREAM NAME</u> | Debris Waste |
| | | <u>WIPP ID</u> | IN-W358 | | |
| | | <u>Local ID</u> | ID-EGG-144TN-152 | | |
| <u>MATRIX CODE</u> | | | 5000 | <u>DESCRIPTION</u> | Radioactive Sources (TRU); Pu Neutron Sources |
| <u>SITE FINAL FORM IDC</u> | | | | | |
| <u>Waste Matrix Code Group</u> | | | | <u>Heterogeneous</u> | |
| <u>Site Matrix Description</u> | | | | | |
| | | | | | |
| <u>NO MIGRATION VARIANCE PETITION ASSIGNMENT</u> | | | | | <u>TRUCON CODE</u> |

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | PCBS | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU HANDLING RH GENERATOR SITE IN

IN-W358

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 26
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1634.6 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.1 | 0.0 | 22.7 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.3 | 0.0 | 16.4 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 5.4 | 5.4 m ³ |
| End of 1993: | 5.4 | 5.4 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu238 | 6.54E+02 Curies/m ³ |
| Pu239 | 3.02E+00 Curies/m ³ |
| Pu240 | 5.81E+00 Curies/m ³ |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME: IN

WASTE TYPE ☐ TRU ☒ RH ☐ GENERATOR SITE ☐

| | | | | |
|-------------------------|----------|------------------|-------------|--|
| WASTE STREAM | MWIR ID | IN-W359 | STREAM NAME | Unknown Solids |
| | WIPP ID | IN-W359 | | |
| | Local ID | ID-EGG-144TN-015 | DESCRIPTION | Radioactive Sources (TRU); Neutron Sources |
| MATRIX CODE | | 8200 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | Unknown | | | |
| Site Matrix Description | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input checked="" type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE

IN-W359

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: Steel

Int. Vol/Ctrr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 3

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.6 | 0.6 m3 |
| End of 1993: | 0.6 | 0.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.40E+02 Curies/m3 |

Comments

Waste material weights are unknown for this waste stream.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU HANDLING RH GENERATOR SITE BT

| | | | | |
|---------------------|----------|------------------|-------------|--|
| WASTE STREAM | MWIR ID | IN-W360 | STREAM NAME | Unknown Solids |
| | WIPP ID | IN-W360 | | |
| | Local ID | ID-EGG-144TN-012 | | |
| MATRIX CODE | | 8200 | DESCRIPTION | Radioactive Sources (TRU): Miscellaneous Sources |
| SITE FINAL FORM IDC | | | | |

Waste Matrix Code Group Unknown
Site Matrix Description

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

X

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

X X X X

TSCA Asbestos
PCBs
Other
N/A
Unknown

X

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE BT

IN-W360

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 1
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Waste material weights and isotopic composition are unknown for this waste stream.

TYPICAL ISOTOPIC COMPOSITION

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|-------------------------|----------|------------------|-------------|--|
| WASTE STREAM | MWIR ID | IN-W366 | STREAM NAME | Solid Process Residues |
| | WIPP ID | IN-W366 | | |
| | Local ID | ID-EGG-137TN-370 | DESCRIPTION | Nonmetal Molds and Crucibles (TRU): Leco Crucibles |
| MATRIX CODE | | 3000 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | | |
| Site Matrix Description | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 118; 222A

TRUCON CODE ID 118; 222A

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|--------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

IN-W366 CONTAINER: SWB overpack
 Type/Size:
 Container Mat: steel
 Int. Vol/Ctnr: 1.9m3
 Liner Type:
 Liner Material:
 Number Stored: 1
 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 128.3 | 21.1 | 503.2 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.7 | 1.6 m3 |
| End of 1993: | 0.7 | 1.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 6.69E-02 Curies/m3 |
| Pu52 | 2.33E+01 Curies/m3 |

Comments

1 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

IN-W366

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208m3

Liner Type:
Liner Material:

Number Stored: 9
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 293.0 | 48.1 | 1149.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.8 | 1.8 m3 |
| End of 1993: | 1.8 | 1.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.53E-01 Curies/m3 |
| Pu52 | 5.32E+01 Curies/m3 |

IN-W366 - 3

IN - 273

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|-------------------------|----------|------------------|-------------|---|
| WASTE STREAM | MWIR ID | IN-W369 | STREAM NAME | Graphite Debris |
| | WIPP ID | IN-W369 | | |
| | Local ID | ID-EGG-137TN-303 | DESCRIPTION | Nonmetal Molds and Crucibles (TRU): Scarfed Graphite Chunks |
| MATRIX CODE | | 5340 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | | |
| Site Matrix Description | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 115

TRUCON CODE ID 115

FINAL WASTE FORM DESCRIPTORS:

| | | | |
|-----------------------|-------------------------------------|-------------------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |

| | | | |
|--------------------------|-------------------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|-------------------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

IN-W369

CONTAINER: SWB overpack

Type/Size:

Container Mat: steel

Int. Vol/Ctnr: 1.9 m3

Liner Type:

Liner Material:

Number Stored: 4

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 153.7 | 16.9 | 183.0 |
| Cellulose | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 3.5 | 7.9 m3 |
| End of 1993: | 3.5 | 7.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 6.64E-02 Curies/m3 |
| Pu52 | 2.20E+01 Curies/m3 |

Comments

4 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

IN-W369 CONTAINER: Drum Type/Size: 55-gallon

Container Mat: steel Int. Vol/Ctnr: 0.208m3 Liner Type: Liner Material:

Number Stored: 43 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 351.0 | 38.5 | 418.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 8.9 | 8.9 m3 |
| End of 1993: | 8.9 | 8.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.52E-01 Curies/m3 |
| Pu52 | 5.02E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

IN-W369 - 3

IN - 276

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

| | | |
|---------------------------|-----------------|-------------|
| WASTE STREAM | WASTE NAME | STREAM NAME |
| MWIR ID IN-W370 | GRAPHITE DEBRIS | |
| WIPP ID IN-W370 | | |
| Local ID ID-EGG-137TN-115 | | |
| 5340 | | |
| MATRIX CODE | | |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | Graphite | |
| Site Matrix Description | | |

DESCRIPTION Nonmetal Molds and Crucibles (TRU): Graphite Waste

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 115

TRUCON CODE ID 115

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|---------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | Other | <input checked="" type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | N/A | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

IN-W370

CONTAINER: SWB overpack

Type/Size:

Container Matl: steel

Int. Vol/Ctnr: 1.9m3

Liner Type:

Liner Material:

Number Stored: 23

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 153.7 | 16.9 | 183.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 18.7 | 42.7 m3 |
| End of 1993: | 18.7 | 42.7 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 2.69E+01 Curies/m3 |
| U235 | 5.18E-07 Curies/m3 |

Comments

23 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

IN-W370 CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 231
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 351.0 | 38.5 | 418.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 48.1 | 48.1 m3 |
| End of 1993: | 48.1 | 48.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 6.15E+01 Curies/m3 |
| U235 | 1.18E-06 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

IN-W370 - 3

IN - 279

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | |
|--|----------------------------------|---|
| WASTE STREAM | MWIR ID IN-W371 | STREAM NAME Metal Debris |
| | WIPP ID IN-W371 | |
| MATRIX CODE | Local ID ID-EGG-132TN-416 | DESCRIPTION Metals (TRU): Zinc Magnesium Alloy Metal |
| SITE FINAL FORM IDC | 5100 | |
| Waste Matrix Code Group Site Matrix Description | | |

Uncategorized Metal

NO MIGRATION VARIANCE PETITION ASSIGNMENT ID 217A

TRUCON CODE ID 217A

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

IN-W371

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: Steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 1

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 615.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 5.03E+02 Curies/m3 |
| Pu52 | 3.43E+02 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE BT

| | | | |
|---------------------|---------------------------|-------------|-----------------------------------|
| WASTE STREAM | MWIR ID IN-W372 | STREAM NAME | Unknown solids |
| | WIPP ID IN-W372 | | |
| | Local ID ID-EGG-132TN-081 | DESCRIPTION | Metals (TRU): Met Samples Fissile |
| MATRIX CODE | 8200 | | |
| SITE FINAL FORM IDC | | | |

Waste Matrix Code Group Unknown
Site Matrix Description

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

X

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

X

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

X X X X X X X

TSCA Asbestos
PCBs
Other
N/A
Unknown

X X X X X

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU HANDLING RH GENERATOR SITE BT

IN-W372

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: Steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 17
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 3.5 | 3.5 m ³ |
| End of 1993: | 3.5 | 3.5 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

Comments

Waste material weights and isotopic activity are unknown for this waste stream.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|-------------------------|----------|------------------|-------------|---|
| WASTE STREAM | MWIR ID | IN-W374 | STREAM NAME | Concrete Debris |
| | WIPP ID | IN-W374 | | |
| | Local ID | ID-EGG-155TN-960 | DESCRIPTION | Concrete-Brick (TRU): Concrete, Asphalt, etc. |
| MATRIX CODE | | 5210 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | | |
| Site Matrix Description | | | | |

Inorganic Non-metal

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | | |
|---|--|--|--|--|
| X | | | | |
|---|--|--|--|--|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | | |
|--|---|--|--|--|
| | X | | | |
|--|---|--|--|--|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|---|---|--|---|--|--|--|
| X | X | | X | | | |
|---|---|--|---|--|--|--|

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--|--|--|---|--|
| | | | X | |
|--|--|--|---|--|

IN-W374 - 1

IN - 284

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

IN-W374

CONTAINER: SWB

Type/Size:

Container Matl: steel
Int. Vol/Ctrr: 1.9m3

Liner Type:
Liner Material:

Number Stored: 4
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 136.5 | 3.8 | 379.1 |
| Cellulosics | 5.3 | 5.3 | 5.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 5.3 | 5.3 | 5.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 28.4 | 0.0 | 4.2 |
| Packaging Materials, Steel | 210.0 | | |
| Packaging Material, Plastic | 16.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2.7 | 6.2 m3 |
| End of 1993: | 2.7 | 6.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 6.19E+00 Curies/m3 |

IN-W374 - 2

IN - 285

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME IN

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

IN-W374 CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208m3
Liner Type:
Liner Material:

Number Stored: 34
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 311.6 | 8.7 | 865.8 |
| Cellulosics | 12.0 | 12.0 | 12.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 12.0 | 12.0 | 12.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 64.9 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 9.6 | 865.8 |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 7.0 | 7.0 m3 |
| End of 1993: | 7.0 | 7.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu52 | 1.41E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

4 in number stored is the number of SWBs that result from overpacking 4 drums/SWB.

KNOLLS ATOMIC POWER LABORATORY (KA) - SCHENECTADY, NY
WASTE STREAM PROFILES

The following modifications were made by the WTWBIR team in developing the KA waste stream profiles:

- The container numbers in waste stream KA-W016 were changed to match the volumes provided on the form.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME KA

WASTE TYPE ☐ TRU ☒ HANDLING ☐ CH ☐ GENERATOR SITE ☐ KA

WASTE STREAM

MWIR ID
WIPP ID KA-T001
Local ID

STREAM NAME Transuranic Debris

MATRIX CODE

DESCRIPTION Non-mixed TRU derived from IDB

SITE FINAL FORM IDC

Waste Matrix Code Group
Site Matrix Description

Heterogeneous

NO MIGRATION VARIANCE PETITION ASSIGNMENT

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☐ ☒ ☐ ☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐ ☒ ☐ ☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒ ☒ ☐ ☒ ☐ ☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐ ☐ ☐ ☒ ☐

TRUCON CODE

KA-T001 - 1

KA - 1

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME KA

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE KA

KA-T001

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208/m3

Liner Type: rigid
Liner Material: 80 mil HDPE

Number Stored: 12
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 98.2 | 0.0 | 1634.6 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.1 | 0.0 | 22.7 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.0 | 0.0 | 184.6 |
| Rubber | 7.3 | 0.0 | 16.4 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2.4 | 2.4 m3 |
| End of 1993: | 2.4 | 2.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 3.10E-01 Curies/m3 |
| Pu239 | 1.40E-04 Curies/m3 |
| Pu240 | 1.60E-04 Curies/m3 |
| Pu241 | 8.10E-02 Curies/m3 |
| Pu242 | 2.40E-06 Curies/m3 |
| Am241 | 2.40E-03 Curies/m3 |
| Co60 | 5.00E-02 Curies/m3 |
| Sr90 | 9.60E-01 Curies/m3 |
| Y90 | 9.60E-01 Curies/m3 |
| Cs137 | 9.60E-01 Curies/m3 |
| Ba137m | 9.20E+01 Curies/m3 |
| MFP | 4.60E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

KA-T001 - 2

KA - 2

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME KA

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ RH ☐ GENERATOR SITE ☐ KA

| | | | |
|---|--------------|--------------------|--|
| <u>WASTE STREAM</u> | | <u>STREAM NAME</u> | |
| WMIR ID | KA-W016 | Transuranic Debris | |
| WIPP ID | KA-W016 | | |
| Local ID | Not Reported | | |
| <u>MATRIX CODE</u> | 5000 | | |
| <u>SITE FINAL FORM IDC</u> | | | |
| <u>Waste Matrix Code Group</u> | | <u>DESCRIPTION</u> | |
| Heterogeneous | | | |
| <u>Site Matrix Description</u> | | | |
| This Transuranic mixed waste has not yet been generated. Waste will be segregated to the extent possible (considering ALARA) into inorganic, organic and heterogeneous waste streams and packaged separately. Homogeneity of the waste packages is currently unknown. Details of waste characteristics will be developed upon generation. This waste stream will not be a moratorium waste. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|--------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input checked="" type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME KA

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE KA

KA-W016

CONTAINER: RH Canister

Type/Size:

Container Matl: Steel/lead

Int. Vol/Ctnr: 0.89 m3

Liner Type:

Liner Material:

Number Stored: 13

Number Projected: 29

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 98.2 | 0.0 | 1634.6 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.1 | 0.0 | 22.7 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.5 |
| Rubber | 7.3 | 0.0 | 16.4 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 11.23 | 11.23 m3 |
| End of 1993: | 11.27 | 11.27 m3 |
| 1994: | 0.87 | 0.87 m3/yr |
| 1995: | 0.87 | 0.87 m3/yr |
| 1996: | 0.87 | 0.87 m3/yr |
| 1997: | 0.87 | 0.87 m3/yr |
| 1998-2002: | 0.87 | 0.87 m3/yr |
| 2003-2022: | 0.87 | 0.87 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 3.10E-01 Curies/m3 |
| Pu239 | 1.40E-04 Curies/m3 |
| Pu240 | 1.60E-04 Curies/m3 |
| Pu241 | 8.10E-02 Curies/m3 |
| Pu242 | 2.40E-06 Curies/m3 |
| Am241 | 2.40E-03 Curies/m3 |
| Co60 | 5.00E-02 Curies/m3 |
| Sr90 | 9.60E-01 Curies/m3 |
| Y90 | 9.60E-01 Curies/m3 |
| Cs137 | 9.60E-01 Curies/m3 |
| Ma137m | 9.20E-01 Curies/m3 |
| MFP | 4.60E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

- D004A
- D005A
- D006A
- D007A
- D008A
- D009A
- D009B
- D009C
- D010A
- D011A
- D018
- D035
- D039
- D040
- F001
- F002

Footnotes

The yearly generation rates were adjusted to match the 25.2 m3 of projected waste reported in the WTWBIR waste stream profiles and the Phase II MMR.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME KA

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE

KA

F003

F005A

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LOS ALAMOS NATIONAL LABORATORY (LA) WASTE STREAM PROFILES

The following modifications were made by the WTWBIR team in developing the LA waste stream profiles:

- Final Waste Form Groups were not assigned by LA but by the WTWBIR team in order to permit roll-ups of the data. However, the Final Waste Form Groups are based on the descriptions and parameters provided by LA.
- For the years 1994 to 2022, LA reported cumulative volumes instead of volumes generated per year. The WTWBIR team has modified the site reported data so that volumes can be consistently rolled-up across all the sites.
- Packaging material parameters were incorrectly reported by LA. These were discussed with LA and corrected by the WTWBIR team.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE ☒ TRU ☐ HANDLING ☒ CH ☐ GENERATOR SITE ☐ LA

| | | |
|---------------------|----------|-------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | Mixed Scrap Metal |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | |

| | |
|-------------------------|--|
| Waste Matrix Code Group | Uncategorized Metal |
| Site Matrix Description | Mixed metal scrap and incidental combustibles. |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ LA 125A TRUCON CODE ☐ LA 125A

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LA

LA-T001

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 364

Number Projected: 2753

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 64.0 | 59.2 | 68.7 |
| Rubber | 1.1 | 1.0 | 1.2 |
| Plastics | 5.3 | 4.9 | 5.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 72.7 | 72.7 m3 |
| End of 1993: | 74.6 | 74.6 m3 |
| 1994: | 20.5 | 20.5 m3/yr |
| 1995: | 20.0 | 20.0 m3/yr |
| 1996: | 20.0 | 20.0 m3/yr |
| 1997: | 20.0 | 20.0 m3/yr |
| 1998-2002: | 20.0 | 20.0 m3/yr |
| 2003-2022: | 20.0 | 20.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Cm244 | 2.33E-04 Curies/m3 |
| Pu238 | 9.51E+02 Curies/m3 |
| Pu239 | 2.10E+04 Curies/m3 |
| Pu52 | 5.26E+00 Curies/m3 |
| Pu53 | 1.69E+00 Curies/m3 |
| Pu54 | 8.56E-01 Curies/m3 |
| Pu56 | 1.82E-01 Curies/m3 |
| Pu83 | 9.17E+01 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE ☒ TRU ☐ CH ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ LA

| | | |
|--|----------------|--------------------|
| <u>WASTE STREAM</u> | <u>MWIR ID</u> | <u>STREAM NAME</u> |
| | WIPP ID | |
| | Local ID | |
| <u>MATRIX CODE</u> | | <u>DESCRIPTION</u> |
| <u>SITE FINAL FORM IDC</u> | | |
| Waste Matrix Code Group | | |
| Site Matrix Description | | |
| Combustible | | |
| Combustible waste - paper, rags, plastic, rubber, etc. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT LA 116A

TRUCON CODE LA 116A

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒

Non-Defense TRU Waste ☐

Commercial TRU Waste ☐

Unknown ☐

Mixed TRU ☐

Non-Mixed TRU ☐

Suspect Mixed TRU ☐

Unknown ☐

Research and Devel. Waste ☐

Operations Waste ☒

Residues ☐

Decon and Decommissioning ☐

Environmental Restoration ☐

From Treatment of Waste ☐

Maintenance ☐

TSCA ☒

Asbestos ☐

PCBs ☐

Other ☐

N/A ☐

Unknown ☐

☐ ☐ ☐ ☒ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU HANDLING CH GENERATOR SITE LA

LA-T004 CONTAINER: Drum Type/Size: 55-gallon

Container Mat: Steel Int. Vol/Ctnr: 0.208 m3

Liner Type: Liner Material:

Number Stored: 7297 Number Projected: 8208

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 257.7 | 254.0 | 265.2 |
| Aluminum-Based Metals/Alloys | 0.4 | 0.4 | 0.4 |
| Other Metals | 18.8 | 18.8 | 89.7 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 64.0 | 59.2 | 68.7 |
| Rubber | 1.1 | 1.0 | 1.2 |
| Plastics | 5.3 | 4.9 | 5.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1499.7 | 1499.7 m3 |
| End of 1993: | 1515.9 | 1515.9 m3 |
| 1994: | 60.0 | 60.0 m3/yr |
| 1995: | 60.0 | 60.0 m3/yr |
| 1996: | 60.0 | 60.0 m3/yr |
| 1997: | 60.0 | 60.0 m3/yr |
| 1998-2002: | 60.0 | 60.0 m3/yr |
| 2003-2022: | 60.0 | 60.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.27E+01 Curies/m3 |
| Am44 | 1.66E+01 Curies/m3 |
| Am45 | 4.95E-03 Curies/m3 |
| Cm243 | 1.49E+00 Curies/m3 |
| Cm244 | 6.05E+01 Curies/m3 |
| MFP | 4.78E+02 Curies/m3 |
| Np237 | 1.53E-03 Curies/m3 |
| Np82 | 1.62E-03 Curies/m3 |
| Pu238 | 3.84E+04 Curies/m3 |
| Pu239 | 3.39E+01 Curies/m3 |
| Pu240 | 4.00E-04 Curies/m3 |
| Pu42 | 3.59E+02 Curies/m3 |
| Pu51 | 1.93E+01 Curies/m3 |
| Pu52 | 3.47E+03 Curies/m3 |
| Pu53 | 1.19E+02 Curies/m3 |
| Pu54 | 1.14E+03 Curies/m3 |
| Pu55 | 1.77E+01 Curies/m3 |
| Pu56 | 1.44E+02 Curies/m3 |
| Pu57 | 6.03E+01 Curies/m3 |
| Pu83 | 2.06E+04 Curies/m3 |
| U12 | 4.82E-03 Curies/m3 |
| U23 | 4.11E-05 Curies/m3 |
| U233 | 3.23E-02 Curies/m3 |
| U235 | 2.65E-03 Curies/m3 |
| U238 | 8.39E-06 Curies/m3 |
| U24 | 5.48E-06 Curies/m3 |
| U25 | 9.33E-06 Curies/m3 |
| U31 | 1.26E-04 Curies/m3 |
| U32 | 5.59E-06 Curies/m3 |
| U33 | 4.19E-06 Curies/m3 |
| U34 | 1.64E-06 Curies/m3 |

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE HANDLING GENERATOR SITE

| | | |
|-----|----------|-----------|
| U35 | 1.62E-05 | Curies/m3 |
| U36 | 1.61E-04 | Curies/m3 |
| U37 | 5.21E-05 | Curies/m3 |
| U38 | 6.19E-03 | Curies/m3 |
| U39 | 4.83E-03 | Curies/m3 |

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LA - 5

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE ☒ TRU ☐ CH HANDLING ☐ CH GENERATOR SITE ☐ LA

| | | |
|--|----------|-------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | | |
| Site Matrix Description | | |
| Uncategorized Metal | | |
| Non-combustible scrap - small tools, cans, small equipment items, broken glass, etc. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ LA 117A; 118A

TRUCON CODE ☐ LA 117A; 118A

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒
 Non-Defense TRU Waste ☐
 Commercial TRU Waste ☐
 Unknown ☐

Mixed TRU ☐
 Non-Mixed TRU ☐
 Suspect Mixed TRU ☐
 Unknown ☐

☒ ☐ ☐ ☐

Research and Devel. Waste
 Operations Waste
 Residues
 Decon and Decommissioning
 Environmental Restoration
 From Treatment of Waste
 Maintenance

☒ ☐ ☐ ☐ ☐ ☐

TSCA Asbestos
 PCBs
 Other
 N/A
 Unknown

☐ ☐ ☐ ☒ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU HANDLING CH GENERATOR SITE LA

LA-T005

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: Steel

Liner Type:

Int. Vol/Ctnr: 0.208m3

Liner Material:

Number Stored: 6975

Number Projected: 5449

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 257.7 | 254.0 | 265.2 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1433.5 | 1433.5 m3 |
| End of 1993: | 1449.1 | 1449.1 m3 |
| 1994: | 40.0 | 40.0 m3/yr |
| 1995: | 40.0 | 40.0 m3/yr |
| 1996: | 40.0 | 40.0 m3/yr |
| 1997: | 40.0 | 40.0 m3/yr |
| 1998-2002: | 40.0 | 40.0 m3/yr |
| 2003-2022: | 40.0 | 40.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | Curies/m3 |
|---------|----------|-----------|
| Ac227 | 4.37E-01 | Curies/m3 |
| Am241 | 6.00E+01 | Curies/m3 |
| Am44 | 1.55E+01 | Curies/m3 |
| Am45 | 2.08E-01 | Curies/m3 |
| Bk249 | 1.00E-03 | Curies/m3 |
| Cd109 | 2.65E+03 | Curies/m3 |
| Cf249 | 1.00E-03 | Curies/m3 |
| Cm242 | 1.02E-03 | Curies/m3 |
| Cm244 | 1.62E+02 | Curies/m3 |
| Co60 | 1.00E-03 | Curies/m3 |
| MFP | 5.68E+01 | Curies/m3 |
| Np237 | 2.59E-03 | Curies/m3 |
| Np82 | 1.86E-03 | Curies/m3 |
| Pa231 | 1.11E-03 | Curies/m3 |
| Po210 | 1.00E-03 | Curies/m3 |
| Pu238 | 3.09E+04 | Curies/m3 |
| Pu239 | 6.49E+01 | Curies/m3 |
| Pu242 | 3.87E-02 | Curies/m3 |
| Pu41 | 9.00E-02 | Curies/m3 |
| Pu42 | 3.23E+02 | Curies/m3 |
| Pu51 | 3.99E+02 | Curies/m3 |
| Pu52 | 1.94E+04 | Curies/m3 |
| Pu53 | 6.92E+02 | Curies/m3 |
| Pu54 | 1.30E+03 | Curies/m3 |
| Pu55 | 1.69E+02 | Curies/m3 |
| Pu56 | 1.33E+02 | Curies/m3 |
| Pu57 | 1.74E+02 | Curies/m3 |
| Pu83 | 2.90E+04 | Curies/m3 |
| Ra226 | 9.05E-01 | Curies/m3 |
| U12 | 5.55E-02 | Curies/m3 |
| U15 | 6.76E-04 | Curies/m3 |

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LA

| | | |
|------|----------|-----------|
| U23 | 7.14E-06 | Curies/m3 |
| U233 | 4.08E+01 | Curies/m3 |
| U235 | 1.98E-03 | Curies/m3 |
| U29 | 3.98E-07 | Curies/m3 |
| U31 | 3.91E-05 | Curies/m3 |
| U32 | 2.26E-04 | Curies/m3 |
| U33 | 2.99E-06 | Curies/m3 |
| U34 | 7.62E-05 | Curies/m3 |
| U35 | 6.24E-05 | Curies/m3 |
| U36 | 3.72E-04 | Curies/m3 |
| U37 | 8.00E-05 | Curies/m3 |
| U38 | 1.42E-03 | Curies/m3 |
| U39 | 3.34E-03 | Curies/m3 |
| U70 | 9.47E-03 | Curies/m3 |
| U81 | 1.16E-02 | Curies/m3 |

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU HANDLING CH GENERATOR SITE LA

| | | |
|-------------------------|----------|---|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | | Solidified Inorganics Cemented process residues. |
| Site Matrix Description | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT LA 114A

TRUCON CODE LA 114A

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|--|---|--|--|
| | X | | |
|--|---|--|--|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|---|--|--|--|--|--|--|
| X | | | | | | |
|---|--|--|--|--|--|--|

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| | | | |
|--|--|---|--|
| | | X | |
|--|--|---|--|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LA

Number Stored: 23
Number Projected: 138

Liner Type: 1/8" Rigid
Liner Material: HDPE

Container Mat: 0m3
Int. Vol/Ctnr:

CONTAINER: Drum
Type/Size: 55-gallon

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.3 | 38.5 | 48.1 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 961.5 | 721.0 | 1057.7 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 4.5 | 4.5 m3 |
| End of 1993: | 4.5 | 4.5 m3 |
| 1994: | 1.5 | 1.5 m3/yr |
| 1995: | 1.0 | 1.0 m3/yr |
| 1996: | 1.0 | 1.0 m3/yr |
| 1997: | 1.0 | 1.0 m3/yr |
| 1998-2002: | 1.0 | 1.0 m3/yr |
| 2003-2022: | 1.0 | 1.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Np237 | 7.05E-06 Curies/m3 |
| Pu239 | 1.38E-01 Curies/m3 |
| Pu42 | 5.43E-01 Curies/m3 |
| Pu51 | 1.04E-02 Curies/m3 |
| Pu52 | 5.78E+00 Curies/m3 |
| Pu54 | 2.41E-03 Curies/m3 |
| Pu56 | 2.54E+00 Curies/m3 |
| Pu83 | 6.07E+02 Curies/m3 |
| U233 | 9.47E-04 Curies/m3 |
| U238 | 6.66E-05 Curies/m3 |
| U38 | 7.49E-05 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **LA** WASTE TYPE **TRU** HANDLING **CH** GENERATOR SITE **LA**

| | | |
|-------------------------|---------------------------------|-------------|
| WASTE STREAM | MMWR ID | STREAM NAME |
| WIPP ID | LA-T007 | |
| Local ID | | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | Uncategorized Metal | |
| Site Matrix Description | Non-combustible hot-cell waste. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ TRUCON CODE ☐

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LA

LA-T007

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 33
Number Projected: 279

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 6.9 | 6.9 m ³ |
| End of 1993: | 6.9 | 6.9 m ³ |
| 1994: | 2.1 | 2.1 m ³ /yr |
| 1995: | 2.0 | 2.0 m ³ /yr |
| 1996: | 2.0 | 2.0 m ³ /yr |
| 1997: | 2.0 | 2.0 m ³ /yr |
| 1998-2002: | 2.0 | 2.0 m ³ /yr |
| 2003-2022: | 2.0 | 2.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| MFP | 2.08E+03 Curies/m ³ |
| Pu238 | 1.74E+00 Curies/m ³ |
| Pu239 | 4.63E+01 Curies/m ³ |
| Pu52 | 5.28E+00 Curies/m ³ |
| Pu83 | 2.25E+01 Curies/m ³ |
| U235 | 3.21E-03 Curies/m ³ |
| U38 | 5.63E-04 Curies/m ³ |

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE ☒ TRU ☐ CH ☐ HANDLING ☐ GENERATOR SITE LA

| | | |
|-------------------------|--------------------|-------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID LA-T008 | |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | Soils | |
| Site Matrix Description | Contaminated soil. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRU CON CODE

FINAL WASTE FORM DESCRIPTORS:

☒ Defense TRU Waste
☐ Non-Defense TRU Waste
☐ Commercial TRU Waste
☐ Unknown

☒ Mixed TRU
☐ Non-Mixed TRU
☐ Suspect Mixed TRU
☐ Unknown

☐
☒
☐
☐

Research and Devel. Waste
 Operations Waste
 Residues
 Decon and Decommissioning
 Environmental Restoration
 From Treatment of Waste
 Maintenance

☒
☐
☐
☐
☐
☐

TSCA
 Asbestos
 PCBs
 Other
 N/A
 Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU HANDLING CH GENERATOR SITE LA

LA-T008 CONTAINER: Drum Type/Size: 55-gallon

Container Mat: Steel Int. Vol/Ctnr: 0.208 m3

Liner Type: Number Stored: 521 Number Projected: 690

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 1200.0 | 1000.0 | 1600.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 109.4 | 109.4 m3 |
| End of 1993: | 109.4 | 109.4 m3 |
| 1994: | 4.6 | 4.6 m3/yr |
| 1995: | 5.0 | 5.0 m3/yr |
| 1996: | 5.0 | 5.0 m3/yr |
| 1997: | 5.0 | 5.0 m3/yr |
| 1998-2002: | 5.0 | 5.0 m3/yr |
| 2003-2022: | 5.0 | 5.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 6.00E-03 Curies/m3 |
| Pu238 | 6.81E-03 Curies/m3 |
| Pu239 | 2.74E+01 Curies/m3 |
| Pu83 | 2.13E+02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

SITE NAME LA

WASTE TYPE HANDLING GENERATOR SITE

| WASTE STREAM | | MWIR ID | STREAM NAME |
|--------------|--|---------|-------------|
| WIPP ID | | LA-T009 | DESCRIPTION |
| Local ID | | | |
| | | | |

| MATRIX CODE | SITE FINAL FORM IDC |
|-------------|---------------------|
| | |

| Waste Matrix Code Group | Site Matrix Description |
|-------------------------|--|
| Uncategorized Metal | Metal from gloveboxes & equipment repackaged from FRP boxes. |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRU-CON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | |
|---------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Mixed TRU | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Research and Devel. Waste | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Operations Waste | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Residues | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Decon and Decommissioning | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Environmental Restoration | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| From Treatment of Waste | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Maintenance | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| TSCA | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Asbestos | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| PCBs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| N/A | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU HANDLING CH GENERATOR SITE LA

LA-T009 CONTAINER: Drum Type/Size: 55 gallon drum Container Matl: Steel Int. Vol/Ctnr: 0.208 m³ Liner Type: Liner Material: Number Stored: 202 Number Projected: 276

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 64.0 | 59.2 | 68.7 |
| Rubber | 1.1 | 1.0 | 1.2 |
| Plastics | 5.3 | 4.9 | 5.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 22.6 | 22.6 m ³ |
| End of 1993: | 42.4 | 42.4 m ³ |
| 1994: | 1.6 | 1.6 m ³ /yr |
| 1995: | 2.0 | 2.0 m ³ /yr |
| 1996: | 2.0 | 2.0 m ³ /yr |
| 1997: | 2.0 | 2.0 m ³ /yr |
| 1998-2002: | 2.0 | 2.0 m ³ /yr |
| 2003-2022: | 2.0 | 2.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu239 | 1.03E+01 Curies/m ³ |
| Pu52 | 2.04E+01 Curies/m ³ |
| Pu54 | 3.11E+02 Curies/m ³ |
| Pu83 | 2.44E+01 Curies/m ³ |

Comments

Repackaging to be completed in future estimates are for final form.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **LA** WASTE TYPE **TRU** HANDLING **RH** GENERATOR SITE **LA**

| | | | |
|--------------------------------|----------------|--|--|
| WASTE STREAM | | STREAM NAME | |
| MWIR ID | | | |
| WIPP ID | LA-T010 | | |
| Local ID | | | |
| MATRIX CODE | | DESCRIPTION | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Combustible | |
| Site Matrix Description | | Combustible waste - papers, rags, plastic, rubber, etc. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT **TRUCON CODE**

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE LA

| | | | | |
|------------|-----------------------------|----------------------|-------------|-------------------|
| LA-T010 | CONTAINER: LANL RH Canister | Container Mat: Steel | Liner Type: | Number Stored: |
| Type/Size: | Int. Vol/Ctr: 0.11 m3 | Liner Material: | | Number Projected: |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 257.7 | 254.0 | 265.2 |
| Aluminum-Based Metals/Alloys | 0.4 | 0.4 | 0.4 |
| Other Metals | 18.8 | 18.8 | 89.7 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 64.0 | 59.2 | 68.7 |
| Rubber | 1.1 | 1.0 | 1.2 |
| Plastics | 5.3 | 4.9 | 5.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 14.8 | 14.8 m3 |
| End of 1993: | 14.8 | 14.8 m3 |
| 1994: | 0.2 | 0.2 m3/yr |
| 1995: | 0.2 | 0.2 m3/yr |
| 1996: | 0.2 | 0.2 m3/yr |
| 1997: | 0.2 | 0.2 m3/yr |
| 1998-2002: | 0.1 | 0.1 m3/yr |
| 2003-2022: | 0.1 | 0.1 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| MEP | 1.46E+03 Curies/m3 |
| Pu239 | 4.15E+01 Curies/m3 |
| Pu53 | 1.49E+00 Curies/m3 |
| Pu55 | 2.30E+00 Curies/m3 |
| Pu56 | 1.09E+00 Curies/m3 |
| Pu57 | 1.32E+00 Curies/m3 |
| U21 | 1.67E-05 Curies/m3 |
| U235 | 4.75E-03 Curies/m3 |
| U238 | 2.00E-05 Curies/m3 |
| U25 | 2.61E-06 Curies/m3 |
| U36 | 2.19E-05 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU HANDLING RH GENERATOR SITE LA

| | | |
|---------------------|----------|-------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | |

| | |
|-------------------------|--|
| Waste Matrix Code Group | Uncategorized Metal |
| Site Matrix Description | Non-combustible scrap - small tools, small equipment items, broken glass, etc. |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU HANDLING RH GENERATOR SITE LA

LA-T011 CONTAINER: RH Can Type/Size: Number Stored: Number Projected:

Container Mat: Steel Liner Type: Liner Material: Number Projected:

Int. Vol/Ctnr: 10.2 m3

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 257.7 | 254.0 | 265.2 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 51.0 | 51.0 m3 |
| End of 1993: | 51.0 | 51.0 m3 |
| 1994: | 10.0 | 10.0 m3/yr |
| 1995: | 10.0 | 10.0 m3/yr |
| 1996: | 10.0 | 10.0 m3/yr |
| 1997: | 10.0 | 10.0 m3/yr |
| 1998-2002: | 2.0 | 2.0 m3/yr |
| 2003-2022: | 0.5 | 0.5 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Cs137 | 3.36E+00 Curies/m3 |
| Pu55 | 3.69E-01 Curies/m3 |
| Ru106 | 2.46E-02 Curies/m3 |
| Sr90 | 3.07E+00 Curies/m3 |
| U38 | 3.45E-05 Curies/m3 |
| Y90 | 3.07E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE ☒ TRU ☐ HANDLING ☒ RH ☐ GENERATOR SITE LA

| | | |
|---------------------|----------|-------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | |

Waste Matrix Code Group
Site Matrix Description

Uncategorized Metal

Non-combustible hot-cell waste.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒ ☐ ☐ ☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐ ☒ ☐ ☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒ ☐ ☐ ☐ ☐ ☐ ☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐ ☐ ☐ ☒ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU HANDLING RH GENERATOR SITE LA

LA-T012 CONTAINER: RH Can Type/Size: Number Stored: Number Projected:

Container Mat: Steel Liner Type: Liner Material: 0.2 m3

Int. Vol/Ctnr: 0.2 m3

Number Stored: Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 10.5 | 10.5 m3 |
| End of 1993: | 10.5 | 10.5 m3 |
| 1994: | 0.5 | 0.5 m3/yr |
| 1995: | 0.5 | 0.5 m3/yr |
| 1996: | 0.5 | 0.5 m3/yr |
| 1997: | 0.5 | 0.5 m3/yr |
| 1998-2002: | 0.1 | 0.1 m3/yr |
| 2003-2022: | 0.1 | 0.1 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| MFP | 1.87E+03 Curies/m3 |
| Pu239 | 3.24E+01 Curies/m3 |
| U235 | 3.36E-03 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE ☐ MTRU ☐ CH ☐ GENERATOR SITE ☐ LA

| | | | |
|-------------------------|----------|--|-------------|
| WASTE STREAM | MWIR ID | LA-W001 | STREAM NAME |
| | WIPP ID | LA-W001 | |
| | Local ID | | |
| MATRIX CODE | | | DESCRIPTION |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Uncategorized Metal | |
| Site Matrix Description | | Mixed metal scrap and incidental combustibles. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ LA 125A

TRUCON CODE ☐ LA 125A

FINAL WASTE FORM DESCRIPTORS:

☒ Defense TRU Waste
☐ Non-Defense TRU Waste
☐ Commercial TRU Waste
☐ Unknown

☒ Mixed TRU
☐ Non-Mixed TRU
☐ Suspect Mixed TRU
☐ Unknown

☒ Research and Devel. Waste
☐ Operations Waste
☐ Residues
☐ Decon and Decommissioning
☐ Environmental Restoration
☐ From Treatment of Waste
☐ Maintenance

☒ TSCA
☐ Asbestos
☐ PCBs
☐ Other
☐ N/A
☐ Unknown

☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU HANDLING CH GENERATOR SITE LA

LA-W001 CONTAINER: Drum Type/Size: 55-gallon

Container Mat: Steel Liner Type: Liner Material: Int. Vol/Ctnr: 0.208m3

Number Stored: 10507 Number Projected: 690

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 64.0 | 59.2 | 68.7 |
| Rubber | 1.1 | 1.0 | 1.2 |
| Plastics | 5.2 | 4.9 | 5.4 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2206.4 | m3 |
| End of 1993: | 2206.4 | m3 |
| 1994: | 4.6 | m3/yr |
| 1995: | 5.0 | m3/yr |
| 1996: | 5.0 | m3/yr |
| 1997: | 5.0 | m3/yr |
| 1998-2002: | 5.0 | m3/yr |
| 2003-2022: | 5.0 | m3/yr |

TYPICAL EPA CODES APPLICABLE D001C

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 7.46E-03 Curies/m3 |
| Am44 | 0.00E+00 Curies/m3 |
| Ba137m | 1.43E+00 Curies/m3 |
| Cr251 | 1.60E-03 Curies/m3 |
| Cs137 | 1.52E+00 Curies/m3 |
| Eu155 | 6.13E-02 Curies/m3 |
| H3 | 0.00E+00 Curies/m3 |
| MAP | 5.00E-02 Curies/m3 |
| MFP | 6.01E+02 Curies/m3 |
| Np237 | 4.00E-10 Curies/m3 |
| Pm147 | 8.68E-02 Curies/m3 |
| Pu238 | 3.95E+03 Curies/m3 |
| Pu239 | 4.32E+02 Curies/m3 |
| Pu42 | 8.04E-01 Curies/m3 |
| Pu51 | 6.52E-02 Curies/m3 |
| Pu52 | 4.60E+02 Curies/m3 |
| Pu53 | 2.26E-01 Curies/m3 |
| Pu54 | 2.74E+01 Curies/m3 |
| Pu55 | 4.24E+00 Curies/m3 |
| Pu56 | 2.56E+00 Curies/m3 |
| Pu63 | 9.70E-02 Curies/m3 |
| Ra226 | 1.30E-03 Curies/m3 |
| Rh106 | 1.12E-02 Curies/m3 |
| Ru106 | 1.12E-02 Curies/m3 |
| Sb125 | 6.19E-02 Curies/m3 |
| Sr90 | 1.39E+00 Curies/m3 |
| Te125m | 2.57E-02 Curies/m3 |
| U12 | 2.02E-03 Curies/m3 |
| U233 | 0.00E+00 Curies/m3 |
| U235 | 3.09E-02 Curies/m3 |
| U238 | 2.00E-06 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LA

| | | |
|-----|----------|-----------|
| U35 | 0.00E+00 | Curies/m3 |
| U38 | 4.74E-04 | Curies/m3 |
| Y90 | 1.39E+00 | Curies/m3 |

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE ☐ MTRU ☒ HANDLING ☐ CH ☐ GENERATOR SITE ☐ LA

| | | | |
|---------------------|----------|---------|-------------|
| WASTE STREAM | MWIR ID | LA-W002 | STREAM NAME |
| | WIPP ID | LA-W002 | |
| | Local ID | | |
| MATRIX CODE | | | |
| SITE FINAL FORM IDC | | | |

| | |
|-------------------------|--|
| Waste Matrix Code Group | Solidified Inorganics |
| Site Matrix Description | Solidified aqueous waste, cemented sludge. |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ LA 111A; 211A ☐ TRUCON CODE ☐ LA 111A; 211A

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|--------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LA

Number Stored: 14547
Number Projected: 2753

Liner Type: Rigid
Liner Material: HDPE

Container Mat: Steel
Int. Vol/Ctnr: 0.208 m³

CONTAINER: Drum
Type/Size: 55-gallon

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 1296.0 | 1090.0 | 2180.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------------------|
| End of 1992: | 3050.1 | 3050.1 m ³ |
| End of 1993: | 3053.0 | 3053.0 m ³ |
| 1994: | 20.0 | 20.0 m ³ /yr |
| 1995: | 20.0 | 20.0 m ³ /yr |
| 1996: | 20.0 | 20.0 m ³ /yr |
| 1997: | 20.0 | 20.0 m ³ /yr |
| 1998-2002: | 20.0 | 20.0 m ³ /yr |
| 2003-2022: | 20.0 | 20.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D003D

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am240 | 6.39E-03 Curies/m ³ |
| Am241 | 1.39E+04 Curies/m ³ |
| MFP | 9.47E+00 Curies/m ³ |
| Pu238 | 1.45E+02 Curies/m ³ |
| Pu239 | 8.34E+02 Curies/m ³ |
| Pu241 | 2.73E+00 Curies/m ³ |
| Th88 | 1.09E-04 Curies/m ³ |
| U12 | 5.38E-03 Curies/m ³ |
| U233 | 2.00E-02 Curies/m ³ |
| U235 | 2.40E-02 Curies/m ³ |
| U238 | 1.78E-03 Curies/m ³ |
| U81 | 4.15E-03 Curies/m ³ |

Comments

Average weight of 55 gal. drum of cemented sludge is 269.65 kg.

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LA - 27

2/28/95

SITE NAME LA

| | | | | | |
|------------|-------|----------|----|----------------|----|
| WASTE TYPE | INTRU | HANDLING | CH | GENERATOR SITE | LA |
|------------|-------|----------|----|----------------|----|

| | | |
|--------------------------------|-----------------------|--------------------|
| <u>WASTE STREAM</u> | <u>MWIR ID</u> | <u>STREAM NAME</u> |
| | LA-W003 | |
| | <u>WIPP ID</u> | |
| | LA-W003 | |
| | <u>Local ID</u> | |
| | | |
| | | |
| <u>MATRIX CODE</u> | | <u>DESCRIPTION</u> |
| <u>SITE FINAL FORM IDC</u> | | |
| <u>Waste Matrix Code Group</u> | Solidified Inorganics | |
| <u>Site Matrix Description</u> | Dewatered sludge. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT **LA 111B; 211B**

TRUCON CODE LA 111B; 211B

FINAL WASTE FORM DESCRIPTORS:

| Defense TRU Waste | Non-Defense TRU Waste | Commercial TRU Waste | Unknown | Mixed TRU | Non-Mixed TRU | Suspect Mixed TRU | Unknown | Research and Devel. Waste | Operations Waste | Residues | Decon and Decommissioning | Environmental Restoration | From Treatment of Waste | Maintenance | TSCA | Asbestos | PCBs | Other | N/A | Unknown |
|-------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|---------------------------|---------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LA

| | | | | |
|----------------------|------------------------|-----------------------|------------------------|---------------------|
| LA-W003 | CONTAINER: Drum | Container Matl: Steel | Liner Type: Rigid | Number Stored: 6083 |
| Type/Size: 85-gallon | Int. Vol/Ctnr: 0.208m3 | Liner Material: HDPE | Number Projected: 2762 | |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 1296.0 | 1090.0 | 2180.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1227.4 | 1227.4 m3 |
| End of 1993: | 1277.4 | 1277.4 m3 |
| 1994: | 20.0 | 20.0 m3/yr |
| 1995: | 20.0 | 20.0 m3/yr |
| 1996: | 20.0 | 20.0 m3/yr |
| 1997: | 20.0 | 20.0 m3/yr |
| 1998-2002: | 20.0 | 20.0 m3/yr |
| 2003-2022: | 20.0 | 20.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 4.25E+02 Curies/m3 |
| MFP | 3.18E-02 Curies/m3 |
| Pu238 | 1.33E+02 Curies/m3 |
| Pu239 | 4.29E+02 Curies/m3 |
| Pu241 | 5.19E-02 Curies/m3 |
| U235 | 1.09E-04 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D004A

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH GENERATOR SITE ☐ LA

| | | | |
|---------------------|----------|---------|-------------|
| WASTE STREAM | MMIR ID | LA-W004 | STREAM NAME |
| | WIPP ID | LA-W004 | |
| | Local ID | | |
| MATRIX CODE | | | |
| SITE FINAL FORM IDC | | | |

| | |
|-------------------------|--|
| Waste Matrix Code Group | Combustible |
| Site Matrix Description | Combustible waste - paper, rags, plastic, rubber, etc. |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ LA 116A TRUCON CODE ☐ LA 116A

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LA

LA-W004

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: Steel
Int. Vol/Ctnr: 0.208m³

Liner Type:
Liner Material:

Number Stored: 1257
Number Projected: 3449

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 257.7 | 254.0 | 265.2 |
| Aluminum-Based Metals/Alloys | 0.4 | 0.4 | 0.4 |
| Other Metals | 18.8 | 18.8 | 89.7 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 64.0 | 59.2 | 68.7 |
| Rubber | 1.1 | 1.0 | 1.2 |
| Plastics | 5.3 | 4.9 | 5.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------------------|
| End of 1992: | 251.8 | 251.8 m ³ |
| End of 1993: | 252.4 | 252.4 m ³ |
| 1994: | 24.6 | 24.6 m ³ /yr |
| 1995: | 25.0 | 25.0 m ³ /yr |
| 1996: | 25.0 | 25.0 m ³ /yr |
| 1997: | 25.0 | 25.0 m ³ /yr |
| 1998-2002: | 25.0 | 25.0 m ³ /yr |
| 2003-2022: | 25.0 | 25.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D005A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am44 | 1.78E+01 Curies/m ³ |
| Am45 | 9.25E-03 Curies/m ³ |
| Cm46 | 2.60E-02 Curies/m ³ |
| Np82 | 7.75E-04 Curies/m ³ |
| Pu238 | 1.96E+03 Curies/m ³ |
| Pu239 | 2.06E-01 Curies/m ³ |
| Pu42 | 4.92E+01 Curies/m ³ |
| Pu52 | 5.62E+03 Curies/m ³ |
| Pu53 | 1.57E+01 Curies/m ³ |
| Pu54 | 2.96E+02 Curies/m ³ |
| Pu56 | 2.78E+01 Curies/m ³ |
| Pu83 | 2.42E+03 Curies/m ³ |
| Th88 | 1.09E-08 Curies/m ³ |
| U12 | 7.78E-06 Curies/m ³ |
| U18 | 1.38E-07 Curies/m ³ |
| U34 | 3.60E-06 Curies/m ³ |
| U35 | 1.29E-05 Curies/m ³ |
| U36 | 2.23E-04 Curies/m ³ |
| U38 | 1.03E-03 Curies/m ³ |
| U39 | 5.80E-03 Curies/m ³ |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE ☒ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ LA

| | | | |
|-------------------------|----------|--|-------------|
| WASTE STREAM | MWIR ID | LA-W005 | STREAM NAME |
| | WIPP ID | LA-W005 | |
| | Local ID | | |
| MATRIX CODE | | | DESCRIPTION |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Uncategorized Metal | |
| Site Matrix Description | | Non-combustible scrap - small tools, cans, small equipment items, broken glass, etc. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ LA 117A; 118A

TRUCON CODE ☐ LA 117A; 118A

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|--------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU HANDLING CH GENERATOR SITE LA

| | | | | |
|---------|---|-------------------------|-----------------|------------------------|
| LA-W005 | CONTAINER: Drum Type/Size: 55-gallon | Container Matl: Steel | Liner Type: | Number Stored: 1039 |
| | | Int. Vol/Ctnr: 0.208 m3 | Liner Material: | Number Projected: 4118 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 257.7 | 254.0 | 265.2 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 207.7 | 207.7 m3 |
| End of 1993: | 212.9 | 212.9 m3 |
| 1994: | 25.1 | 25.1 m3/yr |
| 1995: | 25.0 | 25.0 m3/yr |
| 1996: | 25.0 | 25.0 m3/yr |
| 1997: | 25.0 | 25.0 m3/yr |
| 1998-2002: | 25.0 | 25.0 m3/yr |
| 2003-2022: | 25.0 | 25.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am44 | 1.94E+01 Curies/m3 |
| Am45 | 4.63E-03 Curies/m3 |
| Cm46 | 1.41E-02 Curies/m3 |
| Np82 | 3.17E-04 Curies/m3 |
| Pu238 | 8.35E+01 Curies/m3 |
| Pu239 | 2.25E+00 Curies/m3 |
| Pu42 | 3.26E+02 Curies/m3 |
| Pu51 | 1.48E+01 Curies/m3 |
| Pu52 | 2.83E+04 Curies/m3 |
| Pu53 | 5.16E+02 Curies/m3 |
| Pu54 | 3.27E+03 Curies/m3 |
| Pu55 | 2.25E+02 Curies/m3 |
| Pu56 | 1.26E+03 Curies/m3 |
| Pu83 | 3.83E+02 Curies/m3 |
| U12 | 6.52E-06 Curies/m3 |
| U31 | 6.39E-06 Curies/m3 |
| U35 | 8.16E-05 Curies/m3 |
| U38 | 8.82E-04 Curies/m3 |
| U39 | 4.32E-03 Curies/m3 |
| U72 | 1.52E-01 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **LA** WASTE TYPE **MTRU** HANDLING **CH** GENERATOR SITE **LA**

| | | | |
|--------------------------------|-----------------|----------------------------------|--------------------|
| WASTE STREAM | MWIR ID | LA-W006 | STREAM NAME |
| | WIPP ID | LA-W006 | |
| | Local ID | | |
| MATRIX CODE | | | DESCRIPTION |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Solidified Inorganics | |
| Site Matrix Description | | Cemented process residues | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT **LA 114A** TRUCON CODE **LA 114A**

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU HANDLING CH GENERATOR SITE LA

LA-W006 CONTAINER: Drum Type/Size: 55-gallon Container Mat: Steel Int. Vol/Ctnr: 0.208 m3 Liner Type: Rigid Liner Material: HDPE Number Stored: 2516 Number Projected: 6588

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.3 | 38.5 | 48.1 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 961.5 | 721.0 | 1057.7 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 422.5 | 422.5 m3 |
| End of 1993: | 513.5 | 513.5 m3 |
| 1994: | 29.5 | 29.5 m3/yr |
| 1995: | 30.0 | 30.0 m3/yr |
| 1996: | 30.0 | 30.0 m3/yr |
| 1997: | 30.0 | 30.0 m3/yr |
| 1998-2002: | 30.0 | 30.0 m3/yr |
| 2003-2022: | 30.0 | 30.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D007A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.32E+03 Curies/m3 |
| Am214 | 1.41E+04 Curies/m3 |
| Am45 | 3.70E-01 Curies/m3 |
| Cf249 | 9.77E-05 Curies/m3 |
| Cm46 | 1.36E-02 Curies/m3 |
| MFP | 0.00E+00 Curies/m3 |
| Pu238 | 1.31E+01 Curies/m3 |
| Pu239 | 1.49E+01 Curies/m3 |
| Pu41 | 1.80E-01 Curies/m3 |
| Pu42 | 6.87E+02 Curies/m3 |
| Pu51 | 1.40E+02 Curies/m3 |
| Pu52 | 1.53E+04 Curies/m3 |
| Pu53 | 1.13E+03 Curies/m3 |
| Pu54 | 1.01E+03 Curies/m3 |
| Pu55 | 2.63E+02 Curies/m3 |
| Pu56 | 3.08E+02 Curies/m3 |
| Pu57 | 1.50E+02 Curies/m3 |
| Pu83 | 2.69E+03 Curies/m3 |
| Th228 | 0.00E+00 Curies/m3 |
| Th88 | 2.29E-03 Curies/m3 |
| U12 | 2.47E-01 Curies/m3 |
| U15 | 1.21E-03 Curies/m3 |
| U22 | 1.71E-04 Curies/m3 |
| U23 | 2.70E-03 Curies/m3 |
| U235 | 3.21E-03 Curies/m3 |
| U32 | 7.34E-04 Curies/m3 |
| U33 | 4.10E-04 Curies/m3 |
| U34 | 1.36E-04 Curies/m3 |
| U35 | 1.41E-04 Curies/m3 |
| U36 | 1.63E-03 Curies/m3 |
| U37 | 1.90E-04 Curies/m3 |

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE HANDLING GENERATOR SITE

| | | |
|-----|----------|-----------|
| U38 | 1.18E-03 | Curies/m3 |
| U70 | 9.47E-02 | Curies/m3 |
| U81 | 2.36E-02 | Curies/m3 |

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LA - 36

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU HANDLING CH GENERATOR SITE LA

| | | | |
|---------------------|----------|---------|-------------|
| WASTE STREAM | MMWR ID | LA-W009 | STREAM NAME |
| | WIPP ID | LA-W009 | |
| | Local ID | | |
| MATRIX CODE | | | |
| SITE FINAL FORM IDC | | | |

| | |
|-------------------------|---|
| Waste Matrix Code Group | Uncategorized Metal |
| Site Matrix Description | Metal waste from gloveboxes and equipment |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **LA** WASTE TYPE **MTRU** HANDLING **CH** GENERATOR SITE **LA**

LA-W009 CONTAINER: **Drum** Container Mat: **Steel** Number Stored: **679**
 Type/Size: **55-gallon** Int. Vol/Ctnr: **0.208m3** Number Projected: **1381**
 Liner Type: Liner Material:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED

| RATES OF WASTE GENERATION | Projected | Final Form |
|---------------------------|-----------|------------|
| End of 1992: | 0.4 | 0.4 m3 |
| End of 1993: | 142.7 | 142.7 m3 |
| 1994: | 0.3 | 0.3 m3/yr |
| 1995: | 10.0 | 10.0 m3/yr |
| 1996: | 10.0 | 10.0 m3/yr |
| 1997: | 10.0 | 10.0 m3/yr |
| 1998-2002: | 10.0 | 10.0 m3/yr |
| 2003-2022: | 10.0 | 10.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am-241 | 4.68E+02 Curies/m3 |
| Pu-239 | 2.87E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

F001
 F002
 F005A

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **LA** WASTE TYPE **MTRU** HANDLING **RH** GENERATOR SITE **LA**

| | | |
|---|---------|--------------------|
| WASTE STREAM | | STREAM NAME |
| MMIR ID | LA-WR01 | |
| WIPP ID | LA-WR01 | |
| Local ID | | |
| MATRIX CODE | | |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group Site Matrix Description Uncategorized Metal Mixed metal scrap and incidental combustibles. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT **TRUCON CODE**

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ RH ☐ GENERATOR SITE ☐ LA

LA-WR01 CONTAINER: LANL RH Canister
Type/Size:

Container Mat: Steel
Int. Vol/Ctr: 2.1 m3

Liner Type:
Liner Material:

Number Stored: 1
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 64.0 | 59.2 | 68.7 |
| Rubber | 1.1 | 1.0 | 1.2 |
| Plastics | 5.2 | 4.9 | 5.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2.1 | 2.1 m3 |
| End of 1993: | 2.1 | 2.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Co60 | 3.00E+01 Curies/m3 |
| Pu239 | 1.23E+01 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **LA**

WASTE TYPE **MTRU** HANDLING **RH** GENERATOR SITE **LA**

| | | |
|---------------------|------------------------|-------------|
| WASTE STREAM | MWIR ID LA-WR05 | STREAM NAME |
| | WIPP ID LA-WR05 | |
| | Local ID | |
| MATRIX CODE | | |
| SITE FINAL FORM IDC | | |

| | |
|-------------------------|--|
| Waste Matrix Code Group | Uncategorized Metal |
| Site Matrix Description | Non-combustible scrap - small tools, cans, equipment items, broken glass, etc. |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE LA

LA-WR05

CONTAINER: LANL RH Canister

Type/Size:

Container Mat: Steel

Int. Vol/Ctnr: 1m3

Liner Type:

Liner Material:

Number Stored: 13

Number Projected: 15

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 257.7 | 254.0 | 265.2 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 12.9 | 12.9 m3 |
| 1994: | 1.0 | 1.0 m3/yr |
| 1995: | 1.0 | 1.0 m3/yr |
| 1996: | 1.0 | 1.0 m3/yr |
| 1997: | 1.0 | 1.0 m3/yr |
| 1998-2002: | 0.2 | 0.2 m3/yr |
| 2003-2022: | 0.5 | 0.5 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Ba137m | 2.71E+03 Curies/m3 |
| Cs137 | 2.89E+03 Curies/m3 |
| Eu155 | 5.40E+01 Curies/m3 |
| Pm147 | 1.65E+02 Curies/m3 |
| Pu239 | 1.34E+02 Curies/m3 |
| Rh106 | 2.12E+01 Curies/m3 |
| Ru106 | 2.12E+01 Curies/m3 |
| Sb125 | 1.18E+02 Curies/m3 |
| Sr90 | 2.64E+03 Curies/m3 |
| Te125m | 4.88E+01 Curies/m3 |
| Li235 | 1.14E-04 Curies/m3 |
| Y90 | 2.64E+03 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

LA-WR05 - 2

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2/28/95

LOS ALAMOS NATIONAL LABORATORY (LA) WASTE STREAM PROFILES

The following modifications were made by the WTWBIR team in developing the LA waste stream profiles:

- Final Waste Form Groups were not assigned by LA but by the WTWBIR team in order to permit roll-ups of the data. However, the Final Waste Form Groups are based on the descriptions and parameters provided by LA.
- For the years 1994 to 2022, LA reported cumulative volumes instead of volumes generated per year. The WTWBIR team has modified the site reported data so that volumes can be consistently rolled-up across all the sites.
- Packaging material parameters were incorrectly reported by LA. These were discussed with LA and corrected by the WTWBIR team.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE ☐ TRU ☒ HANDLING ☐ CH ☐ GENERATOR SITE ☐ LA

| | | |
|--|----------|-------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | Mixed Scrap Metal |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | | |
| Site Matrix Description | | |
| Uncategorized Metal | | |
| Mixed metal scrap and incidental combustibles. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT LA 125A

TRUCON CODE LA 125A

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|--------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LA

LA-T001

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 364
Number Projected: 2753

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 64.0 | 59.2 | 68.7 |
| Rubber | 1.1 | 1.0 | 1.2 |
| Plastics | 5.3 | 4.9 | 5.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------------------|
| End of 1992: | 72.7 | 72.7 m ³ |
| End of 1993: | 74.6 | 74.6 m ³ |
| 1994: | 20.5 | 20.5 m ³ /yr |
| 1995: | 20.0 | 20.0 m ³ /yr |
| 1996: | 20.0 | 20.0 m ³ /yr |
| 1997: | 20.0 | 20.0 m ³ /yr |
| 1998-2002: | 20.0 | 20.0 m ³ /yr |
| 2003-2022: | 20.0 | 20.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Cm244 | 2.33E-04 Curies/m ³ |
| Pu238 | 9.51E+02 Curies/m ³ |
| Pu239 | 2.10E+04 Curies/m ³ |
| Pu240 | 5.26E+00 Curies/m ³ |
| Pu241 | 1.69E+00 Curies/m ³ |
| Pu242 | 8.56E-01 Curies/m ³ |
| Pu243 | 1.82E-01 Curies/m ³ |
| Pu244 | 9.17E+01 Curies/m ³ |

LA-T001 - 2

LA - 2

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LA

| | | |
|---|----------|-------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group Site Matrix Description Combustible Combustible waste - paper, rags, plastic, rubber, etc. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT LA 116A

TRUCON CODE LA 116A

FINAL WASTE FORM DESCRIPTORS:

☒ Defense TRU Waste
☐ Non-Defense TRU Waste
☐ Commercial TRU Waste
☐ Unknown

☒ Mixed TRU
☐ Non-Mixed TRU
☐ Suspect Mixed TRU
☐ Unknown

☐ Research and Devel. Waste
☒ Operations Waste
☐ Residues
☐ Decon and Decommissioning
☐ Environmental Restoration
☐ From Treatment of Waste
☐ Maintenance

☒ TSCA
☐ Asbestos
☐ PCBs
☐ Other
☐ N/A
☐ Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LA

LA-T004

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: Steel

Int. Vol/Ctnr: 0.208/m3

Liner Type:

Liner Material:

Number Stored: 7297

Number Projected: 8208

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 257.7 | 254.0 | 265.2 |
| Aluminum-Based Metals/Alloys | 0.4 | 0.4 | 0.4 |
| Other Metals | 18.8 | 18.8 | 89.7 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 64.0 | 59.2 | 68.7 |
| Rubber | 1.1 | 1.0 | 1.2 |
| Plastics | 5.3 | 4.9 | 5.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1499.7 | 1499.7 m3 |
| End of 1993: | 1515.9 | 1515.9 m3 |
| 1994: | 60.0 | 60.0 m3/yr |
| 1995: | 60.0 | 60.0 m3/yr |
| 1996: | 60.0 | 60.0 m3/yr |
| 1997: | 60.0 | 60.0 m3/yr |
| 1998-2002: | 60.0 | 60.0 m3/yr |
| 2003-2022: | 60.0 | 60.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.27E+01 Curies/m3 |
| Am44 | 1.66E+01 Curies/m3 |
| Am45 | 4.95E-03 Curies/m3 |
| Cm243 | 1.49E+00 Curies/m3 |
| Cm244 | 6.05E+01 Curies/m3 |
| MFP | 4.78E+02 Curies/m3 |
| Np237 | 1.53E-03 Curies/m3 |
| Np82 | 1.62E-03 Curies/m3 |
| Pu238 | 3.84E+04 Curies/m3 |
| Pu239 | 3.39E+01 Curies/m3 |
| Pu240 | 4.00E-04 Curies/m3 |
| Pu42 | 3.59E+02 Curies/m3 |
| Pu51 | 1.93E+01 Curies/m3 |
| Pu52 | 3.47E+03 Curies/m3 |
| Pu53 | 1.19E+02 Curies/m3 |
| Pu54 | 1.14E+03 Curies/m3 |
| Pu55 | 1.77E+01 Curies/m3 |
| Pu56 | 1.44E+02 Curies/m3 |
| Pu57 | 6.03E+01 Curies/m3 |
| Pu83 | 2.06E+04 Curies/m3 |
| U12 | 4.82E-03 Curies/m3 |
| U23 | 4.11E-05 Curies/m3 |
| U233 | 3.23E-02 Curies/m3 |
| U235 | 2.65E-03 Curies/m3 |
| U238 | 8.39E-06 Curies/m3 |
| U24 | 5.48E-06 Curies/m3 |
| U25 | 9.33E-06 Curies/m3 |
| U31 | 1.26E-04 Curies/m3 |
| U32 | 5.59E-06 Curies/m3 |
| U33 | 4.19E-06 Curies/m3 |
| U34 | 1.64E-06 Curies/m3 |

LA-T004 - 2

LA - 4

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU HANDLING CH GENERATOR SITE LA

| | | |
|-----|----------|-----------|
| U35 | 1.62E-05 | Curies/m3 |
| U36 | 1.61E-04 | Curies/m3 |
| U37 | 5.21E-05 | Curies/m3 |
| U38 | 6.19E-03 | Curies/m3 |
| U39 | 4.83E-03 | Curies/m3 |

LA-T004 - 3

LA - 5

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE ☐ TRU ☒ CH ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ LA

| | | | |
|----------------------------|--|--|--------------------|
| <u>WASTE STREAM</u> | | <u>MWIR ID</u> | <u>STREAM NAME</u> |
| <u>MATRIX CODE</u> | | <u>WIPP ID</u> | <u>DESCRIPTION</u> |
| <u>SITE FINAL FORM IDC</u> | | <u>Local ID</u> | |
| Waste Matrix Code Group | | Uncategorized Metal | |
| Site Matrix Description | | Non-combustible scrap - small tools, cans, small equipment items, broken glass, etc. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ LA 117A; 118A

FINAL WASTE FORM DESCRIPTORS: ☐ TRUCON CODE ☐ LA 117A; 118A

| | | | | |
|--|--|--|---|--|
| Defense TRU Waste <input checked="" type="checkbox"/> | Mixed TRU <input checked="" type="checkbox"/> | Research and Devel. Waste <input checked="" type="checkbox"/> | TSCA <input checked="" type="checkbox"/> | Asbestos <input type="checkbox"/> |
| Non-Defense TRU Waste <input type="checkbox"/> | Non-Mixed TRU <input type="checkbox"/> | Operations Waste <input type="checkbox"/> | PCBs <input type="checkbox"/> | Other <input type="checkbox"/> |
| Commercial TRU Waste <input type="checkbox"/> | Suspect Mixed TRU <input type="checkbox"/> | Residues <input type="checkbox"/> | Decon and Decommissioning <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> |
| Unknown <input type="checkbox"/> | Unknown <input type="checkbox"/> | Environmental Restoration <input type="checkbox"/> | From Treatment of Waste <input type="checkbox"/> | Unknown <input type="checkbox"/> |
| | | Maintenance <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LA

LA-T005

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: Steel

Int. Vol/Ctnr: 0.208 m³

Liner Type:

Liner Material:

Number Stored: 6975

Number Projected: 5449

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 257.7 | 254.0 | 265.2 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------------------|
| End of 1992: | 1433.5 | 1433.5 m ³ |
| End of 1993: | 1449.1 | 1449.1 m ³ |
| 1994: | 40.0 | 40.0 m ³ /yr |
| 1995: | 40.0 | 40.0 m ³ /yr |
| 1996: | 40.0 | 40.0 m ³ /yr |
| 1997: | 40.0 | 40.0 m ³ /yr |
| 1998-2002: | 40.0 | 40.0 m ³ /yr |
| 2003-2022: | 40.0 | 40.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Ac227 | 4.37E-01 Curies/m ³ |
| Am241 | 6.00E+01 Curies/m ³ |
| Am44 | 1.55E+01 Curies/m ³ |
| Am45 | 2.08E-01 Curies/m ³ |
| Bk249 | 1.00E-03 Curies/m ³ |
| Cd109 | 2.65E+03 Curies/m ³ |
| Cf249 | 1.00E-03 Curies/m ³ |
| Cm242 | 1.02E-03 Curies/m ³ |
| Cm244 | 1.62E+02 Curies/m ³ |
| Co60 | 1.00E-03 Curies/m ³ |
| MFP | 5.68E+01 Curies/m ³ |
| Np237 | 2.59E-03 Curies/m ³ |
| Np82 | 1.86E-03 Curies/m ³ |
| Pa231 | 1.11E-03 Curies/m ³ |
| Po210 | 1.00E-03 Curies/m ³ |
| Pu238 | 3.09E+04 Curies/m ³ |
| Pu239 | 6.49E+01 Curies/m ³ |
| Pu242 | 3.87E-02 Curies/m ³ |
| Pu41 | 9.00E-02 Curies/m ³ |
| Pu42 | 3.23E+02 Curies/m ³ |
| Pu51 | 3.99E+02 Curies/m ³ |
| Pu52 | 1.94E+04 Curies/m ³ |
| Pu53 | 6.92E+02 Curies/m ³ |
| Pu54 | 1.30E+03 Curies/m ³ |
| Pu55 | 1.69E+02 Curies/m ³ |
| Pu56 | 1.33E+02 Curies/m ³ |
| Pu57 | 1.74E+02 Curies/m ³ |
| Pu83 | 2.90E+04 Curies/m ³ |
| Ra226 | 9.05E-01 Curies/m ³ |
| U12 | 5.55E-02 Curies/m ³ |
| U15 | 6.76E-04 Curies/m ³ |

LA-T005 - 2

LA - 7

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LA

| | | |
|------|----------|-----------|
| U23 | 7.14E-06 | Curies/m3 |
| U233 | 4.08E+01 | Curies/m3 |
| U235 | 1.98E-03 | Curies/m3 |
| U29 | 3.98E-07 | Curies/m3 |
| U31 | 3.91E-05 | Curies/m3 |
| U32 | 2.26E-04 | Curies/m3 |
| U33 | 2.99E-06 | Curies/m3 |
| U34 | 7.62E-05 | Curies/m3 |
| U35 | 6.24E-05 | Curies/m3 |
| U36 | 3.72E-04 | Curies/m3 |
| U37 | 8.00E-05 | Curies/m3 |
| U38 | 1.42E-03 | Curies/m3 |
| U39 | 3.34E-03 | Curies/m3 |
| U70 | 9.47E-03 | Curies/m3 |
| U81 | 1.16E-02 | Curies/m3 |

LA-T005 - 3

LA - 8

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU HANDLING CH GENERATOR SITE LA

| | | |
|---|----------|-------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group Site Matrix Description Solidified Inorganics Cemented process residues. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT LA 114A

TRUCON CODE LA 114A

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LA

Number Stored: 23
Number Projected: 138

Container Matl: 0m3
Liner Type: 1/8" Rigid
Liner Material: HDPE

CONTAINER: Drum
Type/Size: 55-gallon

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.3 | 38.5 | 48.1 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 961.5 | 721.0 | 1057.7 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 4.5 | 4.5 m3 |
| End of 1993: | 4.5 | 4.5 m3 |
| 1994: | 1.5 | 1.5 m3/yr |
| 1995: | 1.0 | 1.0 m3/yr |
| 1996: | 1.0 | 1.0 m3/yr |
| 1997: | 1.0 | 1.0 m3/yr |
| 1998-2002: | 1.0 | 1.0 m3/yr |
| 2003-2022: | 1.0 | 1.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Np237 | 7.05E-06 Curies/m3 |
| Pu239 | 1.38E-01 Curies/m3 |
| Pu42 | 5.43E-01 Curies/m3 |
| Pu51 | 1.04E-02 Curies/m3 |
| Pu52 | 5.78E+00 Curies/m3 |
| Pu54 | 2.41E-03 Curies/m3 |
| Pu56 | 2.54E+00 Curies/m3 |
| Pu83 | 6.07E+02 Curies/m3 |
| U233 | 9.47E-04 Curies/m3 |
| U238 | 6.66E-05 Curies/m3 |
| U38 | 7.49E-05 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

WASTE STREAM PROFILE FOR THE WIPP TRU W BASELINE INVENTORY REPORT

SITE NAME **LA** WASTE TYPE **TRU** HANDLING **CH** GENERATOR SITE **LA**

| | | |
|----------------------------|-----------------|--------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | | |
| Site Matrix Description | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT **TRUCON CODE**

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LA

LA-T007

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: Steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 33

Number Projected: 279

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 6.9 | 6.9 m3 |
| End of 1993: | 6.9 | 6.9 m3 |
| 1994: | 2.1 | 2.1 m3/yr |
| 1995: | 2.0 | 2.0 m3/yr |
| 1996: | 2.0 | 2.0 m3/yr |
| 1997: | 2.0 | 2.0 m3/yr |
| 1998-2002: | 2.0 | 2.0 m3/yr |
| 2003-2022: | 2.0 | 2.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| MFP | 2.08E+03 Curies/m3 |
| Pu238 | 1.74E+00 Curies/m3 |
| Pu239 | 4.63E+01 Curies/m3 |
| Pu52 | 5.28E+00 Curies/m3 |
| Pu83 | 2.25E+01 Curies/m3 |
| U235 | 3.21E-03 Curies/m3 |
| U38 | 5.63E-04 Curies/m3 |

SITE NAME LA

| | | | | | |
|------------|-----|----------|----|----------------|----|
| WASTE TYPE | TRU | HANDLING | CH | GENERATOR SITE | LA |
|------------|-----|----------|----|----------------|----|

| | | | | |
|--------------------------------|--|-----------------|---------------------------|--|
| <u>WASTE STREAM</u> | | <u>MWIR ID</u> | <u>STREAM NAME</u> | |
| | | <u>WIPP ID</u> | | |
| | | <u>Local ID</u> | | |
| <u>MATRIX CODE</u> | | | <u>DESCRIPTION</u> | |
| <u>SITE FINAL FORM IDC</u> | | | | |
| <u>Waste Matrix Code Group</u> | | | <u>Soils</u> | |
| <u>Site Matrix Description</u> | | | <u>Contaminated soil.</u> | |

| Waste Matrix Code Group | Soils |
|-------------------------|--------------------|
| Site Matrix Description | Contaminated soil. |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

FINAL WASTE FORM DESCRIPTORS:

| Defense TRU Waste | Non-Defense TRU Waste | Commercial TRU Waste | Unknown | Mixed TRU | Non-Mixed TRU | Suspect Mixed TRU | Unknown | Research and Devel. Waste | Operations Waste | Residues | Decon and Decommissioning | Environmental Restoration | From Treatment of Waste | Maintenance | TSCA | Asbestos | PCBs | Other | N/A | Unknown |
|-------------------|-----------------------|----------------------|---------|-----------|---------------|-------------------|---------|---------------------------|------------------|----------|---------------------------|---------------------------|-------------------------|-------------|------|----------|------|-------|-----|---------|
| X | | | | | X | | | | | | | | | | X | | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU HANDLING CH GENERATOR SITE LA

LA-T008 CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Cntr: 0.208 m3

Liner Type:
Liner Material:
Number Stored: 521
Number Projected: 690

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 1200.0 | 1000.0 | 1600.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 109.4 | 109.4 m3 |
| End of 1993: | 109.4 | 109.4 m3 |
| 1994: | 4.6 | 4.6 m3/yr |
| 1995: | 5.0 | 5.0 m3/yr |
| 1996: | 5.0 | 5.0 m3/yr |
| 1997: | 5.0 | 5.0 m3/yr |
| 1998-2002: | 5.0 | 5.0 m3/yr |
| 2003-2022: | 5.0 | 5.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 6.00E-03 Curies/m3 |
| Pu238 | 6.81E-03 Curies/m3 |
| Pu239 | 2.74E+01 Curies/m3 |
| Pu83 | 2.13E+02 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **LA**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **LA**

| | | | |
|----------------------------|-----------------|--|--|
| WASTE STREAM | | STREAM NAME | |
| WIPP ID | Local ID | | |
| LA-T009 | | | |
| MATRIX CODE | | DESCRIPTION | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Uncategorized Metal | |
| Site Matrix Description | | Metal from gloveboxes & equipment repackaged from FRP boxes. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|---|--|--|--|---|--|---|---|
| Defense TRU Waste Non-Defense TRU Waste Commercial TRU Waste Unknown | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Mixed TRU Non-Mixed TRU Suspect Mixed TRU Unknown | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Research and Devel. Waste Operations Waste Residues Decon and Decommissioning Environmental Restoration From Treatment of Waste Maintenance | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | TSCA Asbestos PCBs Other N/A Unknown | <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
|---|--|--|--|---|--|---|---|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU HANDLING CH GENERATOR SITE LA

Number Stored: 202
Number Projected: 276

Liner Type:
Liner Material:

Container Mat: Steel
Int. Vol/Ctnr: 0.208 m3

CONTAINER: Drum
Type/Size: 55 gallon drum

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 64.0 | 59.2 | 68.7 |
| Rubber | 1.1 | 1.0 | 1.2 |
| Plastics | 5.3 | 4.9 | 5.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 22.6 | 22.6 m3 |
| End of 1993: | 42.4 | 42.4 m3 |
| 1994: | 1.6 | 1.6 m3/yr |
| 1995: | 2.0 | 2.0 m3/yr |
| 1996: | 2.0 | 2.0 m3/yr |
| 1997: | 2.0 | 2.0 m3/yr |
| 1998-2002: | 2.0 | 2.0 m3/yr |
| 2003-2022: | 2.0 | 2.0 m3/yr |

TYPICAL ISOTOPE COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 1.03E+01 Curies/m3 |
| Pu52 | 2.04E+01 Curies/m3 |
| Pu54 | 3.11E+02 Curies/m3 |
| Pu83 | 2.44E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Repackaging to be completed in future estimates are for final form.

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU HANDLING RH GENERATOR SITE LA

| | | |
|--|----------|-------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | |
| | Local ID | |
| MATRIX CODE | | |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group Site Matrix Description Combustible Combustible waste - papers, rags, plastic, rubber, etc. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

☒ Defense TRU Waste
☐ Non-Defense TRU Waste
☐ Commercial TRU Waste
☐ Unknown

☒ Mixed TRU
☐ Non-Mixed TRU
☐ Suspect Mixed TRU
☐ Unknown

☒ Research and Devel. Waste
☐ Operations Waste
☐ Residues

☐ Decon and Decommissioning
☐ Environmental Restoration
☐ From Treatment of Waste
☐ Maintenance

☒ TSCA
☐ Asbestos
☐ PCBs
☐ Other
☐ N/A
☐ Unknown

☐ ☐ ☐ ☒ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE LA

LA-T010

CONTAINER: LANL RH Canister

Type/Size:

Container Mat: Steel

Int. Vol/Ctnr: 0.11 m3

Liner Type:

Liner Material:

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 257.7 | 254.0 | 265.2 |
| Aluminum-Based Metals/Alloys | 0.4 | 0.4 | 0.4 |
| Other Metals | 18.8 | 18.8 | 89.7 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulose | 64.0 | 59.2 | 68.7 |
| Rubber | 1.1 | 1.0 | 1.2 |
| Plastics | 5.3 | 4.9 | 5.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 14.8 | 14.8 m3 |
| End of 1993: | 14.8 | 14.8 m3 |
| 1994: | 0.2 | 0.2 m3/yr |
| 1995: | 0.2 | 0.2 m3/yr |
| 1996: | 0.2 | 0.2 m3/yr |
| 1997: | 0.2 | 0.2 m3/yr |
| 1998-2002: | 0.1 | 0.1 m3/yr |
| 2003-2022: | 0.1 | 0.1 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| MFP | 1.46E+03 Curies/m3 |
| Pu239 | 4.15E+01 Curies/m3 |
| Pu53 | 1.49E+00 Curies/m3 |
| Pu55 | 2.30E+00 Curies/m3 |
| Pu56 | 1.09E+00 Curies/m3 |
| Pu57 | 1.32E+00 Curies/m3 |
| U21 | 1.67E-05 Curies/m3 |
| U235 | 4.75E-03 Curies/m3 |
| U238 | 2.00E-05 Curies/m3 |
| U25 | 2.61E-06 Curies/m3 |
| U36 | 2.19E-05 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE LA

WASTE STREAM

MWIR ID

WIPP ID

Local ID

STREAM NAME

LA-T011

MATRIX CODE

DESCRIPTION

SITE FINAL FORM IDC

Waste Matrix Code Group

Site Matrix Description

Uncategorized Metal

Non-combustible scrap - small tools, small equipment items, broken glass, etc.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste

Non-Defense TRU Waste

Commercial TRU Waste

Unknown

Mixed TRU

Non-Mixed TRU

Suspect Mixed TRU

Unknown

Research and Devel. Waste

Operations Waste

Residues

Decon and Decommissioning

Environmental Restoration

From Treatment of Waste

Maintenance

TSCA

Asbestos

PCBs

Other

N/A

Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE LA

LA-T011

CONTAINER: RH Can

Type/Size:

Container Mat: Steel

Int. Vol/Ctnr:

10.2 m3

Liner Type:

Liner Material:

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 257.7 | 254.0 | 265.2 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED

| RATES OF WASTE GENERATION | Projected | Final Form |
|---------------------------|-----------|------------|
| End of 1992: | 51.0 | 51.0 m3 |
| End of 1993: | 51.0 | 51.0 m3 |
| 1994: | 10.0 | 10.0 m3/yr |
| 1995: | 10.0 | 10.0 m3/yr |
| 1996: | 10.0 | 10.0 m3/yr |
| 1997: | 10.0 | 10.0 m3/yr |
| 1998-2002: | 2.0 | 2.0 m3/yr |
| 2003-2022: | 0.5 | 0.5 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Cs137 | 3.36E+00 Curies/m3 |
| Pu55 | 3.69E-01 Curies/m3 |
| Ru106 | 2.46E-02 Curies/m3 |
| Sr90 | 3.07E+00 Curies/m3 |
| U38 | 3.45E-05 Curies/m3 |
| Y90 | 3.07E+00 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE LA

| | | |
|--|----------|-------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group Site Matrix Description | | |
| Uncategorized Metal Non-combustible hot-cell waste. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

☒ Defense TRU Waste
☐ Non-Defense TRU Waste
☐ Commercial TRU Waste
☐ Unknown

☒ Mixed TRU
☐ Non-Mixed TRU
☐ Suspect Mixed TRU
☐ Unknown

☒ ☐ ☐ ☐

Research and Devel. Waste
 Operations Waste
 Residues
 Decon and Decommissioning
 Environmental Restoration
 From Treatment of Waste
 Maintenance

☒ ☐ ☐ ☐ ☐ ☐ ☐

TSCA
 Asbestos
 PCBs
 Other
 N/A
 Unknown

☐ ☐ ☐ ☒ ☐

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE LA

LA-T012

CONTAINER: RH Can

Type/Size:

Container Matl: Steel

Int. Vol/Ctnr: 0.2 m3

Liner Type:

Liner Material:

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED

RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 10.5 | 10.5 m3 |
| End of 1993: | 10.5 | 10.5 m3 |
| 1994: | 0.5 | 0.5 m3/yr |
| 1996: | 0.5 | 0.5 m3/yr |
| 1996: | 0.5 | 0.5 m3/yr |
| 1997: | 0.5 | 0.5 m3/yr |
| 1998-2002: | 0.1 | 0.1 m3/yr |
| 2003-2022: | 0.1 | 0.1 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| MFP | 1.87E+03 Curies/m3 |
| Pu239 | 3.24E+01 Curies/m3 |
| U235 | 3.36E-03 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

LA-T012 - 2

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU HANDLING CH GENERATOR SITE LA

| | | | | |
|-------------------------|----------|--|-------------|--|
| WASTE STREAM | WASTE ID | LA-W001 | STREAM NAME | |
| | WIPP ID | LA-W001 | DESCRIPTION | |
| | Local ID | | | |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Uncategorized Metal | | |
| Site Matrix Description | | Mixed metal scrap and incidental combustibles. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT LA 125A TRUCON CODE LA 125A

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU HANDLING CH GENERATOR SITE LA

LA-W001 CONTAINER: Drum Type/Size: 55-gallon
 Container Mat: Steel Int. Vol/Ctr: 0.208m³ Liner Type: Liner Material:
 Number Stored: 10507 Number Projected: 690

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulose | 64.0 | 59.2 | 68.7 |
| Rubber | 1.1 | 1.0 | 1.2 |
| Plastics | 5.2 | 4.9 | 5.4 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 2206.4 | 2206.4 m ³ |
| End of 1993: | 2206.4 | 2206.4 m ³ |
| 1994: | 4.6 | 4.6 m ³ /yr |
| 1995: | 5.0 | 5.0 m ³ /yr |
| 1996: | 5.0 | 5.0 m ³ /yr |
| 1997: | 5.0 | 5.0 m ³ /yr |
| 1998-2002: | 5.0 | 5.0 m ³ /yr |
| 2003-2022: | 5.0 | 5.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D001C

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 7.46E-03 Curies/m ³ |
| Am44 | 0.00E+00 Curies/m ³ |
| Ba137m | 1.43E+00 Curies/m ³ |
| Cf251 | 1.60E-03 Curies/m ³ |
| Cs137 | 1.52E+00 Curies/m ³ |
| Eu155 | 6.13E-02 Curies/m ³ |
| H3 | 0.00E+00 Curies/m ³ |
| MAP | 5.00E-02 Curies/m ³ |
| MFP | 6.01E+02 Curies/m ³ |
| Np237 | 4.00E-10 Curies/m ³ |
| Pm147 | 8.68E-02 Curies/m ³ |
| Pu238 | 3.95E+03 Curies/m ³ |
| Pu239 | 4.32E+02 Curies/m ³ |
| Pu42 | 8.04E-01 Curies/m ³ |
| Pu51 | 6.52E-02 Curies/m ³ |
| Pu52 | 4.60E+02 Curies/m ³ |
| Pu53 | 2.26E-01 Curies/m ³ |
| Pu54 | 2.74E+01 Curies/m ³ |
| Pu55 | 4.24E+00 Curies/m ³ |
| Pu56 | 2.56E+00 Curies/m ³ |
| Pu83 | 9.70E-02 Curies/m ³ |
| Ra226 | 1.30E-03 Curies/m ³ |
| Rh106 | 1.12E-02 Curies/m ³ |
| Ru106 | 1.12E-02 Curies/m ³ |
| Sb125 | 6.19E-02 Curies/m ³ |
| Sr90 | 1.39E+00 Curies/m ³ |
| Te125m | 2.57E-02 Curies/m ³ |
| U12 | 2.02E-03 Curies/m ³ |
| U233 | 0.00E+00 Curies/m ³ |
| U235 | 3.09E-02 Curies/m ³ |
| U238 | 2.00E-06 Curies/m ³ |

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

| | | | | | |
|------------|------|----------|----|----------------|----|
| WASTE TYPE | MTRU | HANDLING | CH | GENERATOR SITE | LA |
|------------|------|----------|----|----------------|----|

| | | |
|-----|----------|-----------|
| U35 | 0.00E+00 | Curies/m3 |
| U38 | 4.74E-04 | Curies/m3 |
| Y90 | 1.39E+00 | Curies/m3 |

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LA - 25

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU HANDLING CH GENERATOR SITE LA

| | | |
|-------------------------|--|-------------|
| WASTE STREAM | MWIR ID LA-W002 | STREAM NAME |
| | WIPP ID LA-W002 | |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | Solidified Inorganics | |
| Site Matrix Description | Solidified aqueous waste, cemented sludge. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT LA 111A; 211A

TRUCON CODE LA 111A; 211A

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU HANDLING CH GENERATOR SITE LA

Number Stored: 14547
Number Projected: 2753

Container Matl: Steel
Int. Vol/Ctnr: 0.208 m3
Liner Type: Rigid
Liner Material: HDPE

CONTAINER: Drum
Type/Size: 55-gallon

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 1296.0 | 1090.0 | 2180.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 3050.1 | 3050.1 m3 |
| End of 1993: | 3053.0 | 3053.0 m3 |
| 1994: | 20.0 | 20.0 m3/yr |
| 1995: | 20.0 | 20.0 m3/yr |
| 1996: | 20.0 | 20.0 m3/yr |
| 1997: | 20.0 | 20.0 m3/yr |
| 1998-2002: | 20.0 | 20.0 m3/yr |
| 2003-2022: | 20.0 | 20.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D003D

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am240 | 6.39E-03 Curies/m3 |
| Am241 | 1.39E+04 Curies/m3 |
| MFP | 9.47E+00 Curies/m3 |
| Pu238 | 1.45E+02 Curies/m3 |
| Pu239 | 8.34E+02 Curies/m3 |
| Pu241 | 2.73E+00 Curies/m3 |
| Th88 | 1.09E-04 Curies/m3 |
| U12 | 5.38E-03 Curies/m3 |
| U233 | 2.00E-02 Curies/m3 |
| U235 | 2.40E-02 Curies/m3 |
| U238 | 1.78E-03 Curies/m3 |
| U81 | 4.15E-03 Curies/m3 |

Comments

Average weight of 55 gal. drum of cemented sludge is 269.65 kg.

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU HANDLING CH GENERATOR SITE LA

| | | | |
|---------------------|----------|---------|-------------|
| WASTE STREAM | MWIR ID | LA-W003 | STREAM NAME |
| | WIPP ID | LA-W003 | |
| | Local ID | | DESCRIPTION |
| MATRIX CODE | | | |
| SITE FINAL FORM IDC | | | |

Waste Matrix Code Group
Site Matrix Description
Solidified Inorganics
Dewatered sludge.

NO MIGRATION VARIANCE PETITION ASSIGNMENT LA 111B; 211B

TRUCON CODE LA 111B; 211B

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LA

LA-W003

CONTAINER: Drum

Type/Size: 85-gallon

Container Matl: Steel

Int. Vol/Ctnr: 0.208 m³

Liner Type: Rigid

Liner Material: HDPE

Number Stored: 6083

Number Projected: 2762

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 1296.0 | 1090.0 | 2180.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------------------|
| End of 1992: | 1227.4 | 1227.4 m ³ |
| End of 1993: | 1277.4 | 1277.4 m ³ |
| 1994: | 20.0 | 20.0 m ³ /yr |
| 1995: | 20.0 | 20.0 m ³ /yr |
| 1996: | 20.0 | 20.0 m ³ /yr |
| 1997: | 20.0 | 20.0 m ³ /yr |
| 1998-2002: | 20.0 | 20.0 m ³ /yr |
| 2003-2022: | 20.0 | 20.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 4.25E+02 Curies/m ³ |
| MFP | 3.18E-02 Curies/m ³ |
| Pu238 | 1.33E+02 Curies/m ³ |
| Pu239 | 4.29E+02 Curies/m ³ |
| Pu241 | 5.19E-02 Curies/m ³ |
| U235 | 1.09E-04 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D004A

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ LA

| | | | |
|---------------------|----------|---------|-------------|
| WASTE STREAM | MWIR ID | LA-W004 | STREAM NAME |
| | WIPP ID | LA-W004 | |
| | Local ID | | |
| MATRIX CODE | | | |
| SITE FINAL FORM IDC | | | |

| | |
|-------------------------|--|
| Waste Matrix Code Group | Combustible |
| Site Matrix Description | Combustible waste - paper, rags, plastic, rubber, etc. |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ LA 116A

TRUCON CODE ☐ LA 116A

FINAL WASTE FORM DESCRIPTORS:

| | | | | |
|--|---|---|--|---|
| <input checked="" type="checkbox"/> Defense TRU Waste <input type="checkbox"/> Non-Defense TRU Waste <input type="checkbox"/> Commercial TRU Waste <input type="checkbox"/> Unknown | <input checked="" type="checkbox"/> Mixed TRU <input type="checkbox"/> Non-Mixed TRU <input type="checkbox"/> Suspect Mixed TRU <input type="checkbox"/> Unknown | <input checked="" type="checkbox"/> Research and Devel. Waste <input type="checkbox"/> Operations Waste <input type="checkbox"/> Residues <input type="checkbox"/> Decon and Decommissioning <input type="checkbox"/> Environmental Restoration <input type="checkbox"/> From Treatment of Waste <input type="checkbox"/> Maintenance | <input type="checkbox"/> TSCA <input checked="" type="checkbox"/> Asbestos <input type="checkbox"/> PCBs <input type="checkbox"/> Other <input type="checkbox"/> N/A <input type="checkbox"/> Unknown | <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
|--|---|---|--|---|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LA

LA-W004

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: Steel
Int. Vol/Ctnr: 0.208 m³

Liner Type:
Liner Material:

Number Stored: 1257
Number Projected: 3449

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 257.7 | 254.0 | 265.2 |
| Aluminum-Based Metals/Alloys | 0.4 | 0.4 | 0.4 |
| Other Metals | 18.8 | 18.8 | 89.7 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 64.0 | 59.2 | 68.7 |
| Rubber | 1.1 | 1.0 | 1.2 |
| Plastics | 5.3 | 4.9 | 5.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|-------------------------|
| End of 1992: | 251.8 | 251.8 m ³ |
| End of 1993: | 252.4 | 252.4 m ³ |
| 1994: | 24.6 | 24.6 m ³ /yr |
| 1996: | 25.0 | 25.0 m ³ /yr |
| 1996: | 25.0 | 25.0 m ³ /yr |
| 1997: | 25.0 | 25.0 m ³ /yr |
| 1998-2002: | 25.0 | 25.0 m ³ /yr |
| 2003-2022: | 25.0 | 25.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE D005A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am44 | 1.78E+01 Curies/m ³ |
| Am45 | 9.25E-03 Curies/m ³ |
| Cm46 | 2.60E-02 Curies/m ³ |
| Np82 | 7.75E-04 Curies/m ³ |
| Pu238 | 1.96E+03 Curies/m ³ |
| Pu239 | 2.06E-01 Curies/m ³ |
| Pu42 | 4.92E+01 Curies/m ³ |
| Pu52 | 5.62E+03 Curies/m ³ |
| Pu53 | 1.57E+01 Curies/m ³ |
| Pu54 | 2.96E+02 Curies/m ³ |
| Pu56 | 2.78E+01 Curies/m ³ |
| Pu83 | 2.42E+03 Curies/m ³ |
| Th88 | 1.09E-08 Curies/m ³ |
| U12 | 7.78E-06 Curies/m ³ |
| U18 | 1.38E-07 Curies/m ³ |
| U34 | 3.60E-06 Curies/m ³ |
| U35 | 1.29E-05 Curies/m ³ |
| U36 | 2.23E-04 Curies/m ³ |
| U38 | 1.03E-03 Curies/m ³ |
| U39 | 5.80E-03 Curies/m ³ |

SITE NAME LA

| | | | | | |
|------------|------|----------|----|----------------|----|
| WASTE TYPE | MTRU | HANDLING | CH | GENERATOR SITE | LA |
|------------|------|----------|----|----------------|----|

| WASTE STREAM | | MWIR ID | LA-W005 | STREAM NAME |
|-------------------------|--|----------|---------|--|
| | | WIPP ID | LA-W005 | |
| | | Local ID | | |
| | | | | |
| | | | | |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | | Uncategorized Metal |
| Site Matrix Description | | | | Non-combustible scrap - small tools, cans, small equipment items, broken glass, etc. |

| Site Matrix Description | Non-combustible scrap - small tools, cans, small equipment items, broken glass, etc. |
|-------------------------|--|
| | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT LA 117A; 118A

TRUCON CODE **LA 117A; 118A**

FINAL WASTE FORM DESCRIPTORS:

[illegible]

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LA

LA-W005

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 1039
Number Projected: 4118

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 257.7 | 254.0 | 265.2 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 207.7 | 207.7 m3 |
| End of 1993: | 212.9 | 212.9 m3 |
| 1994: | 25.1 | 25.1 m3/yr |
| 1995: | 25.0 | 25.0 m3/yr |
| 1996: | 25.0 | 25.0 m3/yr |
| 1997: | 25.0 | 25.0 m3/yr |
| 1998-2002: | 25.0 | 25.0 m3/yr |
| 2003-2022: | 25.0 | 25.0 m3/yr |

TYPICAL EPA CODES APPLICABLE D006A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am44 | 1.94E+01 Curies/m3 |
| Am45 | 4.63E-03 Curies/m3 |
| Cm46 | 1.41E-02 Curies/m3 |
| Np82 | 3.17E-04 Curies/m3 |
| Pu238 | 8.35E+01 Curies/m3 |
| Pu239 | 2.25E+00 Curies/m3 |
| Pu42 | 3.26E+02 Curies/m3 |
| Pu51 | 1.48E+01 Curies/m3 |
| Pu52 | 2.83E+04 Curies/m3 |
| Pu53 | 5.16E+02 Curies/m3 |
| Pu54 | 3.27E+03 Curies/m3 |
| Pu55 | 2.25E+02 Curies/m3 |
| Pu56 | 1.26E+03 Curies/m3 |
| Pu83 | 3.83E+02 Curies/m3 |
| U12 | 6.52E-06 Curies/m3 |
| U31 | 6.39E-06 Curies/m3 |
| U35 | 8.16E-05 Curies/m3 |
| U38 | 8.82E-04 Curies/m3 |
| U39 | 4.32E-03 Curies/m3 |
| U72 | 1.52E-01 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LA

| | | | |
|-------------------------|---------|---------------------------|--|
| WASTE STREAM | | STREAM NAME | |
| MWIR ID | LA-W006 | | |
| WIPP ID | LA-W006 | | |
| Local ID | | | |
| MATRIX CODE | | DESCRIPTION | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Solidified Inorganics | |
| Site Matrix Description | | Cemented process residues | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT LA 114A

TRUCON CODE LA 114A

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|---|--|--|--|--|--|--|
| X | | | | | | |
|---|--|--|--|--|--|--|

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--|--|--|---|--|
| | | | X | |
|--|--|--|---|--|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LA

LA-W006

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208m3

Liner Type: Rigid
Liner Material: HDPE

Number Stored: 2516
Number Projected: 6588

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.3 | 38.5 | 48.1 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 961.5 | 721.0 | 1057.7 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 422.5 | 422.5 m3 |
| End of 1993: | 513.5 | 513.5 m3 |
| 1994: | 29.5 | 29.5 m3/yr |
| 1995: | 30.0 | 30.0 m3/yr |
| 1996: | 30.0 | 30.0 m3/yr |
| 1997: | 30.0 | 30.0 m3/yr |
| 1998-2002: | 30.0 | 30.0 m3/yr |
| 2003-2022: | 30.0 | 30.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D007A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.32E+03 Curies/m3 |
| Am214 | 1.41E+04 Curies/m3 |
| Am45 | 3.70E-01 Curies/m3 |
| Cf249 | 9.77E-05 Curies/m3 |
| Cm46 | 1.36E-02 Curies/m3 |
| MFP | 0.00E+00 Curies/m3 |
| Pu238 | 1.31E+01 Curies/m3 |
| Pu239 | 1.49E+01 Curies/m3 |
| Pu41 | 1.80E-01 Curies/m3 |
| Pu42 | 6.87E+02 Curies/m3 |
| Pu51 | 1.40E+02 Curies/m3 |
| Pu52 | 1.53E+04 Curies/m3 |
| Pu53 | 1.13E+03 Curies/m3 |
| Pu54 | 1.01E+03 Curies/m3 |
| Pu55 | 2.63E+02 Curies/m3 |
| Pu56 | 3.08E+02 Curies/m3 |
| Pu57 | 1.50E+02 Curies/m3 |
| Pu83 | 2.69E+03 Curies/m3 |
| Th228 | 0.00E+00 Curies/m3 |
| Th88 | 2.29E-03 Curies/m3 |
| U12 | 2.47E-01 Curies/m3 |
| U15 | 1.21E-03 Curies/m3 |
| U22 | 1.71E-04 Curies/m3 |
| U23 | 2.70E-03 Curies/m3 |
| U235 | 3.21E-03 Curies/m3 |
| U32 | 7.34E-04 Curies/m3 |
| U33 | 4.10E-04 Curies/m3 |
| U34 | 1.36E-04 Curies/m3 |
| U35 | 1.41E-04 Curies/m3 |
| U36 | 1.63E-03 Curies/m3 |
| U37 | 1.90E-04 Curies/m3 |

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU HANDLING CH GENERATOR SITE LA

| | | |
|-----|----------|-----------|
| U38 | 1.18E-03 | Curies/m3 |
| U70 | 9.47E-02 | Curies/m3 |
| U81 | 2.36E-02 | Curies/m3 |

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU HANDLING CH GENERATOR SITE LA

| | | |
|-------------------------|-----------------|---|
| WASTE STREAM | MWIR ID LA-W009 | STREAM NAME |
| MATRIX CODE | WIPP ID LA-W009 | DESCRIPTION |
| SITE FINAL FORM IDC | Local ID | |
| Waste Matrix Code Group | | Uncategorized Metal |
| Site Matrix Description | | Metal waste from gloveboxes and equipment |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

☒ Defense TRU Waste
☐ Non-Defense TRU Waste
☐ Commercial TRU Waste
☐ Unknown

☒ Mixed TRU
☐ Non-Mixed TRU
☐ Suspect Mixed TRU
☐ Unknown

☒
☐
☐
☐

Research and Devel. Waste
 Operations Waste
 Residues
 Decon and Decommissioning
 Environmental Restoration
 From Treatment of Waste
 Maintenance

☒
☐
☐
☐
☐
☐
☐

TSCA
 Asbestos
 PCBs
 Other
 N/A
 Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LA

LA-W009

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: Steel

Int. Vol/Ctnr: 0.208 m³

Liner Type:

Liner Material:

Number Stored: 679

Number Projected: 1381

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------------------|
| End of 1992: | 0.4 | 0.4 m ³ |
| End of 1993: | 142.7 | 142.7 m ³ |
| 1994: | 0.3 | 0.3 m ³ /yr |
| 1995: | 10.0 | 10.0 m ³ /yr |
| 1996: | 10.0 | 10.0 m ³ /yr |
| 1997: | 10.0 | 10.0 m ³ /yr |
| 1998-2002: | 10.0 | 10.0 m ³ /yr |
| 2003-2022: | 10.0 | 10.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am-241 | 4.68E+02 Curies/m ³ |
| Pu-239 | 2.87E+01 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

F001
F002
F005A

WASTE STREAM PROFILE FOR THE WIPP TRU W

SITE NAME LA

WASTE TYPE MTRU

HANDLING **RH**

GENERATOR SITE **LA**

| | | | |
|--|-----------------|----------------|--------------------|
| <u>WASTE STREAM</u> | <u>MWIR ID</u> | <u>LA-WR01</u> | <u>STREAM NAME</u> |
| | <u>WIPP ID</u> | <u>LA-WR01</u> | |
| | <u>Local ID</u> | | |
| <u>MATRIX CODE</u> | | | |
| <u>SITE FINAL FORM IDC</u> | | | |
| <u>Waste Matrix Code Group</u> | | | <u>DESCRIPTION</u> |
| Uncategorized Metal | | | |
| <u>Site Matrix Description</u> | | | |
| Mixed metal scrap and incidental combustibles. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| Defense TRU Waste | Mixed TRU | Research and Devel. Waste | TSCA | Asbestos |
|-------------------------------------|--------------------------|---------------------------|-------------------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Non-Defense TRU Waste | Non-Mixed TRU | Operations Waste | <input type="checkbox"/> | PCBs |
| Commercial TRU Waste | Suspect Mixed TRU | Residues | <input type="checkbox"/> | Other |
| Unknown | Unknown | Decon and Decommissioning | <input type="checkbox"/> | N/A |
| | | Environmental Restoration | <input type="checkbox"/> | Unknown |
| | | From Treatment of Waste | <input type="checkbox"/> | |
| | | Maintenance | <input type="checkbox"/> | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LA

WASTE TYPE HANDLING GENERATOR SITE

LA-WR01 CONTAINER: Container Mat: Liner Type: Number Stored:
 Type/Size: Int. Vol/Ctnr: Liner Material: Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 302.9 | 76.9 | 913.5 |
| Other Inorganic Materials | 6.8 | 6.8 | 6.8 |
| Cellulosics | 64.0 | 59.2 | 68.7 |
| Rubber | 1.1 | 1.0 | 1.2 |
| Plastics | 5.2 | 4.9 | 5.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2.1 | 2.1 m3 |
| End of 1993: | 2.1 | 2.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Co60 | 3.00E+01 Curies/m3 |
| Pu239 | 1.23E+01 Curies/m3 |

LAWRENCE BERKELEY LABORATORY (LB) WASTE STREAM PROFILES

The following assumptions/modifications were made by the WTWBIR team in developing the LB waste stream profiles:

- LB Final Waste Form Groups were modified to be consistent with the nomenclature used in the WTWBID. These changes included word and spelling changes. The assigned Final Waste Form Groups are consistent with the information provided by LB.
- The reported volume for the single LB waste stream was divided equally among the four different isotopic mixtures.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LB

WASTE TYPE TRU HANDLING CH GENERATOR SITE LB

| | | | |
|---------------------|----------|-------------|---------------|
| WASTE STREAM | MWIR ID | STREAM NAME | LBL - Waste |
| | WIPP ID | | |
| | Local ID | | |
| MATRIX CODE | | DESCRIPTION | Non-mixed TRU |
| SITE FINAL FORM IDC | | | |

Waste Matrix Code Group Heterogeneous

Site Matrix Description

The LBL is operated by UC for DOE and performs multi-disciplinary research in the energy sciences, life sciences, and general sciences. During the research a small amount of TRU waste is generated.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|--------------------------|-------------------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|-------------------------------------|--------------------------|--------------------------|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|--------------------------|-------------------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|-------------------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

LB-T001 - 1

LB - 1

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LB

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LB

LB-T001

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: Steel

Int. Vol/Ctnr: 0.208m3

Liner Type:

Liner Material:

Number Stored: 1

Number Projected: 5

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 390.0 | 40.0 | 800.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 425.0 | 50.0 | 850.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 150.0 | 60.0 | 200.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 450.0 | 150.0 | 600.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 150.0 | 50.0 | 250.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

Comments

Iron-based metal approx. 5%
Other metals approx. 5%
Cellulosics - paper approx. 50%
Plastics approx. 30%
Solidified organic matrix approx. 10%
Drum #1

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------|
| End of 1992: | 0.210 | 0.210 m3 |
| End of 1993: | 0.210 | 0.210 m3 |
| 1994: | 0.000 | 0.000 m3/yr |
| 1995: | 0.105 | 0.105 m3/yr |
| 1996: | 0.000 | 0.000 m3/yr |
| 1997: | 0.000 | 0.000 m3/yr |
| 1998-2002: | 0.040 | 0.040 m3/yr |
| 2003-2022: | 0.040 | 0.040 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 6.73E-03 Curies/m3 |
| Np237 | 7.21E-03 Curies/m3 |
| Pu239 | 7.69E-03 Curies/m3 |
| Ra226 | 1.92E-05 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LB

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LB

LB-T001

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: Steel

Int. Vol/Ctr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 1

Number Projected: 5

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 390.0 | 40.0 | 800.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 425.0 | 50.0 | 850.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 150.0 | 60.0 | 200.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 450.0 | 150.0 | 600.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 150.0 | 50.0 | 250.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------|
| End of 1992: | 0.210 | 0.210 m3 |
| End of 1993: | 0.210 | 0.210 m3 |
| 1994: | 0.000 | 0.000 m3/yr |
| 1995: | 0.105 | 0.105 m3/yr |
| 1996: | 0.000 | 0.000 m3/yr |
| 1997: | 0.000 | 0.000 m3/yr |
| 1998-2002: | 0.040 | 0.040 m3/yr |
| 2003-2022: | 0.040 | 0.040 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.99E-02 Curies/m3 |
| Am243 | 3.37E-02 Curies/m3 |
| Cf249 | 1.95E-03 Curies/m3 |
| Pu238 | 2.45E-04 Curies/m3 |
| Pu242 | 4.28E-04 Curies/m3 |
| Ra226 | 1.32E-02 Curies/m3 |

Comments

Iron-based metal approx. 5%
 Other metals approx. 5%
 Cellulosics - paper approx. 50%
 Plastics approx. 30%
 Solidified organic matrix approx. 10%
 Drum #2

LB-T001 - 3

LB - 3

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LB

WASTE TYPE TRU HANDLING CH GENERATOR SITE LB

| | | | | |
|---------|----------------------|-------------------------------------|-----------------|---------------------|
| LB-T001 | CONTAINER: Drum | Container Matl: Steel | Liner Type: | Number Stored: 1 |
| | Type/Size: 55-gallon | Int. Vol/Ctnr: 0.208 m ³ | Liner Material: | Number Projected: 5 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 390.0 | 40.0 | 800.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 425.0 | 50.0 | 850.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 150.0 | 60.0 | 200.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 450.0 | 150.0 | 600.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 150.0 | 50.0 | 250.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

Comments

Iron-based metal approx. 5%
 Other metals approx. 5%
 Cellulosic - paper approx. 50%
 Plastics approx. 30%
 Solidified organic matrix approx. 10%
 Drum #3

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|--------------------------|
| End of 1992: | 0.210 | 0.210 m ³ |
| End of 1993: | 0.210 | 0.210 m ³ |
| 1994: | 0.000 | 0.000 m ³ /yr |
| 1995: | 0.105 | 0.105 m ³ /yr |
| 1996: | 0.000 | 0.000 m ³ /yr |
| 1997: | 0.000 | 0.000 m ³ /yr |
| 1998-2002: | 0.040 | 0.040 m ³ /yr |
| 2003-2022: | 0.040 | 0.040 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Cm 249 | 2.02E-02 Curies/m ³ |
| Pu242 | 4.81E-03 Curies/m ³ |

LB-T001 - 4

LB - 4

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LB

WASTE TYPE TRU HANDLING CH GENERATOR SITE LB

LB-T001

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: Steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 1
Number Projected: 5

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 390.0 | 40.0 | 800.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 425.0 | 50.0 | 850.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 150.0 | 60.0 | 200.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 450.0 | 150.0 | 600.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 150.0 | 50.0 | 250.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------|
| End of 1992: | 0.210 | 0.210 m3 |
| End of 1993: | 0.210 | 0.210 m3 |
| 1994: | 0.000 | 0.000 m3/yr |
| 1995: | 0.105 | 0.105 m3/yr |
| 1996: | 0.000 | 0.000 m3/yr |
| 1997: | 0.000 | 0.000 m3/yr |
| 1998-2002: | 0.040 | 0.040 m3/yr |
| 2003-2022: | 0.040 | 0.040 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 6.33E-02 Curies/m3 |
| Am243 | 4.81E-03 Curies/m3 |
| Cf249 | 1.20E-03 Curies/m3 |
| Cf250 | 4.81E-05 Curies/m3 |
| Cm244 | 1.21E-02 Curies/m3 |
| Es253 | 4.81E-04 Curies/m3 |
| Es254 | 5.29E-03 Curies/m3 |
| Np237 | 5.77E-06 Curies/m3 |
| Pu240 | 5.05E-03 Curies/m3 |
| Pu242 | 4.84E-03 Curies/m3 |
| Ra226 | 2.06E-02 Curies/m3 |
| U233 | 4.81E-03 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Iron-based metal approx. 5%
Other metals approx. 5%
Cellulosics - paper approx. 50%
Plastics approx. 30%
Solidified organic matrix approx. 10%
Drum #4

LB-T001 - 5

LB - 5

2/28/95

LAWRENCE LIVERMORE NATIONAL LABORATORY (LL) WASTE STREAM PROFILES

The following assumptions/modifications were made by the WTWBIR team in developing the LL waste stream profiles:

- Since only current volumes were provided by LL, the final form volumes were assumed to be the same as the current volumes.
- The WTWBIR team had to assign Identification numbers (IDs) to those LL waste streams not given an identifier by the site. The assigned identification numbers are consistent with the site reported numbers.
- LL Final Waste Form Groups were modified to be consistent with the nomenclature used in the WTWBID. These changes included word and spelling changes. The assigned Final Waste Form Groups are consistent with the information provided by LL.
- The volumes for the year 1993 were changed from an annual rate of generation (m^3/year) to a cumulative value (m^3).

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LL

| | | | |
|-------------------------|----------|--|-----------------------------|
| WASTE STREAM | MWIR ID | STREAM NAME | R&D Glovebox Waste (Form 1) |
| | WIPP ID | DESCRIPTION | |
| | Local ID | | |
| MATRIX CODE | | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Combustible | |
| Site Matrix Description | | <p>The waste consists mostly of untreated dry solids such as tissues, paper, assorted plastics, glassware, ceramics, and metals. Portland cement or Aquaset is used to solidify small amounts of water-based liquids; Envirostone or Petroset is used to solidify small amounts of solvents and oil-based liquids. The composition varies considerably, but it is predominantly organics (> 90% by weight). The waste does contain small amounts of RCRA listed hazardous materials. Typical hazardous materials are leaded gloves or materials contaminated with solvents.</p> | |

The waste consists of glovebox bagout waste, laboratory trash and some contaminated equipment. The waste contains small amounts of RCRA materials such as solvents or lead shielding. The waste may occasionally include small quantities of solidified liquids, but these are usually segregated as waste form 2.

NO MIGRATION VARIANCE PETITION ASSIGNMENT LL 116

TRUCON CODE LL 116

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

LL-M001 - 1

LL - 1

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LL

Number Stored: 25
Number Projected: 56

Container Matl: steel
Int. Vol/Ctnr: 0.208 m3
Liner Type: rigid
Liner Material: HDPE

CONTAINER: Drum
Type/Size: 55 gallon

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 5.0 | 0.0 | 365.0 |
| Aluminum-Based Metals/Alloys | 5.0 | 0.0 | 365.0 |
| Other Metals | 2.0 | 0.0 | 365.0 |
| Other Inorganic Materials | 1.0 | 0.0 | 200.0 |
| Cellulosics | 100.0 | 0.0 | 365.0 |
| Rubber | 5.0 | 0.0 | 200.0 |
| Plastics | 100.0 | 5.0 | 365.0 |
| Solidified, Inorganic matrix | 5.0 | 0.0 | 100.0 |
| Solidified, Organic matrix | 5.0 | 0.0 | 100.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 144.0 | | |
| Packaging Material, Plastic | 33.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 5.2 | 5.2 m3 |
| End of 1993: | 5.2 | 5.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.4 | 0.4 m3/yr |
| 1996: | 0.4 | 0.4 m3/yr |
| 1997: | 0.4 | 0.4 m3/yr |
| 1998-2002: | 0.4 | 0.4 m3/yr |
| 2003-2022: | 0.4 | 0.4 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.59E+00 Curies/m3 |
| Cm244 | 3.03E+00 Curies/m3 |
| Pu238 | 2.46E+00 Curies/m3 |
| Pu239 | 2.06E+00 Curies/m3 |
| Pu240 | 9.26E-01 Curies/m3 |
| Pu241 | 2.83E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D001
D002
D003
D006
D008
D009
D040

Comments

Content weight is limited to 76 kg or 365 kg/m3.
All weights are based on process knowledge.
Drum weight averages 30kg of steel.
Liner + liner bag averages 7kg of polyethylene.

LL-M001 - 2

LL - 2

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LL

| | | | |
|--|----------|-------------|--|
| WASTE STREAM | MWIR ID | STREAM NAME | Solidified Waste (Form 2) |
| | WIPP ID | DESCRIPTION | More than 50 volume percent of this waste consists of solidified water-based or oil-based liquids or solidified fine particles. The remaining waste consists of glovebox bagout waste, laboratory trash and some contaminated equipment. |
| | Local ID | | |
| MATRIX CODE | | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group Site Matrix Description Solidified Inorganics 50 to 90% of this waste matrix consists of liquids solidified in 1 to 5 gallon plastic containers using Portland cement or Aquaset for the water based liquids and Envirostone or Petroset for the oil-based liquids. The remainder consists of glovebox waste similar to form 1 waste. The waste does not contain any RCRC listed hazardous materials. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT LL 111

TRUCON CODE LL 111

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒

Non-Defense TRU Waste ☐

Commercial TRU Waste ☐

Unknown ☐

Mixed TRU ☐

Non-Mixed TRU ☐

Suspect Mixed TRU ☐

Unknown ☐

☒

☐

☐

☐

Research and Devel. Waste

Operations Waste

Residues

Decon and Decommissioning

Environmental Restoration

From Treatment of Waste

Maintenance

☒

☐

☐

☐

☐

☐

☐

TSCA

Asbestos

PCBs

Other

N/A

Unknown

☐

☐

☒

☐

Footnotes

The TRUCON and NMVP assignments for the waste stream only applies to the solidified inorganics in the waste stream.

LL-T001 - 1

LL - 3

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LL

LL-T001

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m³

Liner Type: rigid
Liner Material: HDPE

Number Stored: 60
Number Projected: 287

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 30.0 | 0.0 | 100.0 |
| Aluminum-Based Metals/Alloys | 5.0 | 0.0 | 50.0 |
| Other Metals | 1.0 | 0.0 | 20.0 |
| Other Inorganic Materials | 1.0 | 0.0 | 20.0 |
| Cellulose | 10.0 | 0.0 | 100.0 |
| Rubber | 1.0 | 0.0 | 20.0 |
| Plastics | 20.0 | 5.0 | 100.0 |
| Solidified, Inorganic matrix | 100.0 | 50.0 | 365.0 |
| Solidified, Organic matrix | 100.0 | 50.0 | 365.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 144.0 | | |
| Packaging Material, Plastic | 33.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 10.2 | 10.2 m ³ |
| End of 1993: | 12.5 | 12.5 m ³ |
| 1994: | 1.5 | 1.5 m ³ /yr |
| 1995: | 2.1 | 2.1 m ³ /yr |
| 1996: | 2.1 | 2.1 m ³ /yr |
| 1997: | 2.1 | 2.1 m ³ /yr |
| 1998-2002: | 2.1 | 2.1 m ³ /yr |
| 2003-2022: | 2.1 | 2.1 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 9.09E-01 Curies/m ³ |
| Pu239 | 1.40E+00 Curies/m ³ |
| Pu240 | 6.32E-01 Curies/m ³ |
| Pu241 | 1.95E+01 Curies/m ³ |

Comments

Content weight is limited to 76 kg or 365 kg/m³.
All weights are estimates based on process knowledge.
Drum weight averages 30 kg of steel.
Liner + liner bag averages 7 kg of polyethylene.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU HANDLING CH GENERATOR SITE LL

| | | | |
|-------------------------|--|-------------|-----------------------------|
| WASTE STREAM | MWIR ID | STREAM NAME | R&D Glovebox Waste (Form 1) |
| | WIPP ID | DESCRIPTION | |
| | Local ID | | |
| MATRIX CODE | | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | Combustible | | |
| Site Matrix Description | The waste consists mostly of untreated dry solids such as tissues, paper, assorted plastics, glassware, ceramics, and metals. Portland cement or Aquaset is used to solidify small amounts of water-based liquids; Envirostone or Petroset is used to solidify small amounts of solvents and oil-based liquids. The composition varies considerably, but it is predominantly organics (> 90% by weight). The waste does not contain any RCRA listed hazardous materials. | | |

The waste consists of glovebox bagout waste, laboratory trash and some contaminated equipment. The waste may occasionally include small quantities of solidified liquids, but these are usually segregated as waste form 2.

NO MIGRATION VARIANCE PETITION ASSIGNMENT LL 116

TRUCON CODE LL 116

FINAL WASTE FORM DESCRIPTORS:

| | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |

| | | | |
|---------------------------|-------------------------------------|------|----------|
| Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | Asbestos |
| Operations Waste | <input type="checkbox"/> | | PCBs |
| Residues | <input type="checkbox"/> | | Other |
| Decon and Decommissioning | <input type="checkbox"/> | | N/A |
| Environmental Restoration | <input type="checkbox"/> | | Unknown |
| From Treatment of Waste | <input type="checkbox"/> | | |
| Maintenance | <input type="checkbox"/> | | |

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

LL-T002-1

LL-5

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LL

LL-T002

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m³

Liner Type: rigid
Liner Material: HDPE

Number Stored: 210
Number Projected: 1736

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 5.0 | 0.0 | 365.0 |
| Aluminum-Based Metals/Alloys | 5.0 | 0.0 | 365.0 |
| Other Metals | 2.0 | 0.0 | 365.0 |
| Other Inorganic Materials | 1.0 | 0.0 | 200.0 |
| Cellulosics | 100.0 | 0.0 | 365.0 |
| Rubber | 5.0 | 0.0 | 200.0 |
| Plastics | 100.0 | 5.0 | 365.0 |
| Solidified, Inorganic matrix | 5.0 | 0.0 | 100.0 |
| Solidified, Organic matrix | 5.0 | 0.0 | 100.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 144.0 | | |
| Packaging Material, Plastic | 33.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------------------|
| End of 1992: | 34.5 | 34.5 m ³ |
| End of 1993: | 43.7 | 43.7 m ³ |
| 1994: | 11.2 | 11.2 m ³ /yr |
| 1995: | 12.5 | 12.5 m ³ /yr |
| 1996: | 12.5 | 12.5 m ³ /yr |
| 1997: | 12.5 | 12.5 m ³ /yr |
| 1998-2002: | 12.5 | 12.5 m ³ /yr |
| 2003-2022: | 12.5 | 12.5 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 1.79E+00 Curies/m ³ |
| Pu238 | 3.24E-01 Curies/m ³ |
| Pu239 | 2.50E+00 Curies/m ³ |
| Pu240 | 1.03E+00 Curies/m ³ |
| Pu241 | 3.17E+01 Curies/m ³ |

Comments

Content weight is limited to 76 kg or 365 kg/m³.
All weights are estimated based on process knowledge.
Drum weight averages 30 kg of steel.
Liner + liner bag averages 7 kg of polyethylene.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LL

| | | |
|-------------------------|---|---|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID LL-T003 | Combined metal scrap & incidental combust (Form 3) |
| MATRIX CODE | Local ID | DESCRIPTION |
| | Form 3 non-mixed | This waste consists of contaminated equipment and laboratory trash too big to fit into 55 gallon drums. This waste does not contain RCRA hazardous materials. |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | Uncategorized Metal | |
| Site Matrix Description | This waste consists mostly of metal scrap such as decommissioned gloveboxes, hoods, and other large equipment as well as laboratory trash. Typically it will contain metal components, glassware, ceramics, plastics, paper, and wood. It will be mostly inorganic materials, but can vary widely. This waste does not contain RCRA listed hazardous materials. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT LL 125

TRUCON CODE LL 125

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

LL-T003 - 1

LL-7

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LL

LL-T003

CONTAINER: Rogers Chem Box #2
Type/Size:

Container Mat: Steel
Int. Vol/Ctnr: 5.646 m3

Liner Type: None
Liner Material:

Number Stored: 1
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 100.0 | 0.0 | 140.0 |
| Aluminum-Based Metals/Alloys | 15.0 | 0.0 | 140.0 |
| Other Metals | 10.0 | 0.0 | 30.0 |
| Other Inorganic Materials | 2.0 | 0.0 | 10.0 |
| Cellulosics | 5.0 | 0.0 | 15.0 |
| Rubber | 1.0 | 0.0 | 5.0 |
| Plastics | 2.0 | 0.0 | 10.0 |
| Solidified, Inorganic matrix | 1.0 | 0.0 | 3.0 |
| Solidified, Organic matrix | 1.0 | 0.0 | 3.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 146.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 5.6 | 5.6 m3 |
| End of 1993: | 5.6 | 5.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.00E-04 Curies/m3 |
| Pu239 | 2.50E-03 Curies/m3 |
| Pu240 | 6.00E-04 Curies/m3 |
| Pu241 | 1.67E-02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

These estimates are based on the content weight for this container. Approximate weight for plastic bags is used in the packaging material/plastic field.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU HANDLING CH GENERATOR SITE LL

| | | | | |
|---------|----------------------------------|-------------------------|------------------|---------------------|
| LL-T003 | CONTAINER: Capital Indus. Box #1 | Container Matl: Steel | Liner Type: None | Number Stored: 2 |
| | Type/Size: | Int. Vol/Ctnr: 3.811 m3 | Liner Material: | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 200.0 | 0.0 | 30.0 |
| Aluminum-Based Metals/Alloys | 3.0 | 0.0 | 30.0 |
| Other Metals | 1.0 | 0.0 | 30.0 |
| Other Inorganic Materials | 1.0 | 0.0 | 5.0 |
| Cellulosics | 1.0 | 0.0 | 5.0 |
| Rubber | 1.0 | 0.0 | 5.0 |
| Plastics | 1.0 | 0.0 | 20.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 5.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 5.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 160.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 7.6 | 7.6 m3 |
| End of 1993: | 7.6 | 7.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 4.00E-04 Curies/m3 |
| Pu239 | 3.00E-03 Curies/m3 |
| Pu240 | 7.00E-04 Curies/m3 |
| Pu241 | 1.99E-02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

These estimates are based on the content weight for this container. Approximate weight for plastic bags is used in the packaging material/plastic field.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU HANDLING CH GENERATOR SITE LL

LL-T003

CONTAINER: Capital Indus. Box #2

Type/Size:

Container Matl: Steel

Int. Vol/Ctnr: 4.003 m3

Liner Type: None

Liner Material:

Number Stored: 15

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 300.0 | 100.0 | 390.0 |
| Aluminum-Based Metals/Alloys | 40.0 | 0.0 | 200.0 |
| Other Metals | 20.0 | 0.0 | 40.0 |
| Other Inorganic Materials | 10.0 | 0.0 | 20.0 |
| Cellulosics | 10.0 | 0.0 | 30.0 |
| Rubber | 5.0 | 0.0 | 10.0 |
| Plastics | 5.0 | 0.0 | 20.0 |
| Solidified, Inorganic matrix | 2.0 | 0.0 | 10.0 |
| Solidified, Organic matrix | 2.0 | 0.0 | 10.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 156.0 | | |
| Packaging Material, Plastic | 0.0 | | |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 60.1 | 60.1 m3 |
| End of 1993: | 60.1 | 60.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.90E-03 Curies/m3 |
| Pu239 | 2.45E-02 Curies/m3 |
| Pu240 | 5.70E-03 Curies/m3 |
| Pu241 | 1.99E-01 Curies/m3 |

Comments

These estimates are based on the content weight for this container. Approximate weight for plastic bags is used in the packaging material/plastic field.

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2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LL

LL-T003

CONTAINER: Rogers Chem. Box #1

Type/Size:

Container Matl: Steel

Int. Vol/Ctnr: 4.247/m3

Liner Type: None

Liner Material:

Number Stored: 1

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 100.0 | 0.0 | 140.0 |
| Aluminum-Based Metals/Alloys | 15.0 | 0.0 | 140.0 |
| Other Metals | 10.0 | 0.0 | 30.0 |
| Other Inorganic Materials | 2.0 | 0.0 | 10.0 |
| Cellulosics | 5.0 | 0.0 | 15.0 |
| Rubber | 1.0 | 0.0 | 5.0 |
| Plastics | 2.0 | 0.0 | 10.0 |
| Solidified, Inorganic matrix | 1.0 | 0.0 | 3.0 |
| Solidified, Organic matrix | 1.0 | 0.0 | 3.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 109.0 | | |
| Packaging Material, Plastic | 0.0 | | |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 4.2 | 4.2 m3 |
| End of 1993: | 4.2 | 4.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.45E-02 Curies/m3 |
| Pu239 | 3.78E-02 Curies/m3 |
| Pu240 | 8.70E-03 Curies/m3 |
| Pu241 | 2.54E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

These estimates are based on the content weight for this container. Approximate weight for plastic bags is used in the packaging material/plastic field.

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU HANDLING CH GENERATOR SITE LL

LL-T003

CONTAINER: Rogers Chem. Box #3

Type/Size:

Container Matl: Steel

Int. Vol/Ctnr: 5.753 m3

Liner Type: None

Liner Material:

Number Stored: 1

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 35.0 | 0.0 | 45.0 |
| Aluminum-Based Metals/Alloys | 5.0 | 0.0 | 45.0 |
| Other Metals | 3.0 | 0.0 | 20.0 |
| Other Inorganic Materials | 2.0 | 0.0 | 10.0 |
| Cellulosics | 2.0 | 0.0 | 10.0 |
| Rubber | 1.0 | 0.0 | 5.0 |
| Plastics | 1.0 | 0.0 | 10.0 |
| Solidified, Inorganic matrix | 1.0 | 0.0 | 3.0 |
| Solidified, Organic matrix | 1.0 | 0.0 | 3.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 158.0 | | |
| Packaging Material, Plastic | 0.0 | | |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 5.8 | 5.8 m3 |
| End of 1993: | 5.8 | 5.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.00E-04 Curies/m3 |
| Pu239 | 2.40E-03 Curies/m3 |
| Pu240 | 6.00E-04 Curies/m3 |
| Pu241 | 1.62E-02 Curies/m3 |

Comments

These estimates are based on the content weight for this container. Approximate weight for plastic bags is used in the packaging material/plastic field.

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LL

LL-T003

CONTAINER: Capital Indus. Box #3
Type/Size:

Container Matl: Steel
Int. Vol/Ctnr: 6.385 m3

Liner Type: None
Liner Material:

Number Stored: 1
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 35.0 | 0.0 | 45.0 |
| Aluminum-Based Metals/Alloys | 5.0 | 0.0 | 45.0 |
| Other Metals | 3.0 | 0.0 | 20.0 |
| Other Inorganic Materials | 2.0 | 0.0 | 10.0 |
| Cellulosics | 2.0 | 0.0 | 10.0 |
| Rubber | 1.0 | 0.0 | 5.0 |
| Plastics | 1.0 | 0.0 | 10.0 |
| Solidified, Inorganic matrix | 1.0 | 0.0 | 3.0 |
| Solidified, Organic matrix | 1.0 | 0.0 | 3.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 111.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 6.4 | 6.4 m3 |
| End of 1993: | 6.4 | 6.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am2441 | 4.00E-04 Curies/m3 |
| Pu238 | 3.20E-03 Curies/m3 |
| Pu240 | 7.00E-04 Curies/m3 |
| Pu241 | 2.18E-02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

These estimates are based on the content weight for this container. Approximate weight for plastic bags is used in the packaging material/plastic field.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU HANDLING CH GENERATOR SITE LL

| | | | | |
|---------|----------------------------------|-------------------------|------------------|---------------------|
| LL-T003 | CONTAINER: Capital Indus. Box #4 | Container Matl: Steel | Liner Type: None | Number Stored: 1 |
| | Type/Size: | Int. Vol/Ctnr: 7.495 m3 | Liner Material: | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 35.0 | 0.0 | 45.0 |
| Aluminum-Based Metals/Alloys | 5.0 | 0.0 | 45.0 |
| Other Metals | 3.0 | 0.0 | 20.0 |
| Other Inorganic Materials | 2.0 | 0.0 | 10.0 |
| Cellulosics | 2.0 | 0.0 | 10.0 |
| Rubber | 1.0 | 0.0 | 5.0 |
| Plastics | 1.0 | 0.0 | 10.0 |
| Solidified, Inorganic matrix | 1.0 | 0.0 | 3.0 |
| Solidified, Organic matrix | 1.0 | 0.0 | 3.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 145.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 7.5 | 7.5 m3 |
| End of 1993: | 7.5 | 7.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 9.70E-03 Curies/m3 |
| Pu238 | 9.40E-03 Curies/m3 |
| Pu239 | 1.40E-02 Curies/m3 |
| Pu240 | 7.00E-03 Curies/m3 |
| Pu241 | 2.11E-01 Curies/m3 |

Comments

These estimates are based on the content weight for this container. Approximate weight for plastic bags is used in the packaging material/plastic field.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU HANDLING CH GENERATOR SITE LL

| | | |
|-------------------------|---|---|
| WASTE STREAM | MWIR ID | STREAM NAME |
| WIPP ID | LL-T003 Contd | Combined metal scrap & incidental combust (Form 3) |
| Local ID | Form 3 non-mixed | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | This waste consists of contaminated equipment and laboratory trash too big to fit into 55 gallon drums. This waste does not contain RCRA hazardous materials. |
| Waste Matrix Code Group | Uncategorized Metal | |
| Site Matrix Description | This waste consists mostly of metal scrap such as decommissioned gloveboxes, hoods, and other large equipment as well as laboratory trash. Typically it will contain metal components, glassware, ceramics, plastics, paper, and wood. It will be mostly inorganic materials, but can vary widely. This waste does not contain RCRA listed hazardous materials. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT LL 125 TRUCON CODE LL 125

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|---------|----------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | Asbestos |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input type="checkbox"/> | PCBs | |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input checked="" type="checkbox"/> | Other | |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | N/A | |
| | | | | Environmental Restoration | <input type="checkbox"/> | Unknown | |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LL

LL-T003 Con CONTAINER: Standard Waste Box Type/Size:
 Container Mat: Steel Liner Type: None
 Int. Vol/Ctnr: 1.9 m3 Liner Material:
 Number Stored: 2
 Number Projected: 116

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 150.0 | 0.0 | 800.0 |
| Aluminum-Based Metals/Alloys | 20.0 | 0.0 | 800.0 |
| Other Metals | 10.0 | 0.0 | 800.0 |
| Other Inorganic Materials | 5.0 | 0.0 | 800.0 |
| Cellulosics | 5.0 | 0.0 | 500.0 |
| Rubber | 2.0 | 0.0 | 100.0 |
| Plastics | 3.0 | 2.0 | 200.0 |
| Solidified, Inorganic matrix | 2.0 | 0.0 | 300.0 |
| Solidified, Organic matrix | 2.0 | 0.0 | 300.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 153.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 3.8 | 3.8 m3 |
| End of 1993: | 3.8 | 3.8 m3 |
| 1994: | 7.6 | 7.6 m3/yr |
| 1995: | 7.6 | 7.6 m3/yr |
| 1996: | 7.6 | 7.6 m3/yr |
| 1997: | 7.6 | 7.6 m3/yr |
| 1998-2002: | 7.6 | 7.6 m3/yr |
| 2003-2022: | 7.6 | 7.6 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.35E-01 Curies/m3 |
| Pu238 | 7.02E-02 Curies/m3 |
| Pu239 | 9.92E-02 Curies/m3 |
| Pu240 | 8.02E-02 Curies/m3 |
| Pu241 | 2.45E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

These estimates are based on the content weight for this container. Approximate weight for plastic bags is used in the packaging material/plastic field.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU HANDLING CH GENERATOR SITE LL

LL-T003 Con CONTAINER: Rogers Chem. Box #4
Type/Size: _____

Container Matl: Steel Int. Vol/Ctnr: 7.588 m3
Liner Type: None
Liner Material: None

Number Stored: 1
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 35.0 | 0.0 | 45.0 |
| Aluminum-Based Metals/Alloys | 5.0 | 0.0 | 45.0 |
| Other Metals | 3.0 | 0.0 | 20.0 |
| Other Inorganic Materials | 2.0 | 0.0 | 10.0 |
| Cellulosics | 2.0 | 0.0 | 10.0 |
| Rubber | 1.0 | 0.0 | 5.0 |
| Plastics | 1.0 | 0.0 | 10.0 |
| Solidified, Inorganic matrix | 1.0 | 0.0 | 3.0 |
| Solidified, Organic matrix | 1.0 | 0.0 | 3.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 110.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 7.6 | 7.6 m3 |
| End of 1993: | 7.6 | 7.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.40E-04 Curies/m3 |
| Pu239 | 1.18E-03 Curies/m3 |
| Pu240 | 2.70E-04 Curies/m3 |
| Pu241 | 7.94E-03 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

These estimates are based on the content weight for this container. Approximate weight for plastic bags is used in the packaging material/plastic field.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU HANDLING CH GENERATOR SITE LL

LL-T003 Con CONTAINER: Rogers Chem. Box #5 Type/Size: Container Matl: Steel Liner Type: None Number Stored: 3
 Int. Vol/Ctnr: 8.306 m3 Liner Material: Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 150.0 | 0.0 | 200.0 |
| Aluminum-Based Metals/Alloys | 20.0 | 0.0 | 100.0 |
| Other Metals | 10.0 | 0.0 | 100.0 |
| Other Inorganic Materials | 5.0 | 0.0 | 20.0 |
| Cellulosics | 5.0 | 0.0 | 50.0 |
| Rubber | 2.0 | 0.0 | 10.0 |
| Plastics | 3.0 | 0.0 | 50.0 |
| Solidified, Inorganic matrix | 2.0 | 0.0 | 10.0 |
| Solidified, Organic matrix | 2.0 | 0.0 | 10.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 0.0 | | |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 24.9 | 24.9 m3 |
| End of 1993: | 24.9 | 24.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.90E-03 Curies/m3 |
| Pu239 | 3.28E-02 Curies/m3 |
| Pu240 | 7.60E-03 Curies/m3 |
| Pu241 | 2.21E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

These estimates are based on the content weight for this container. Approximate weight for plastic bags is used in the packaging material/plastic field.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LL

| | | | | |
|-------------|--------------------------------|------------------------|------------------|---------------------|
| LL-T003 Con | CONTAINER: Rogers Chem. Box #6 | Container Mat: Steel | Liner Type: None | Number Stored: 1 |
| Type/Size: | | Int. Vol/Ctnr: 8.92 m3 | Liner Material: | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 125.0 | 0.0 | 170.0 |
| Aluminum-Based Metals/Alloys | 20.0 | 0.0 | 100.0 |
| Other Metals | 10.0 | 0.0 | 50.0 |
| Other Inorganic Materials | 5.0 | 0.0 | 20.0 |
| Cellulosics | 5.0 | 0.0 | 30.0 |
| Rubber | 2.0 | 0.0 | 10.0 |
| Plastics | 3.0 | 0.0 | 30.0 |
| Solidified, Inorganic matrix | 2.0 | 0.0 | 5.0 |
| Solidified, Organic matrix | 2.0 | 0.0 | 5.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 126.0 | | |
| Packaging Material, Plastic | 0.0 | | |

Comments

These estimates are based on the content weight for this container. Approximate weight for plastic bags is used in the packaging material/plastic field.

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 8.9 | 8.9 m3 |
| End of 1993: | 8.9 | 8.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.22E+02 Curies/m3 |
| Pu239 | 1.02E-01 Curies/m3 |
| Pu240 | 2.35E-02 Curies/m3 |
| Pu241 | 6.87E-01 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL WASTE TYPE TRU HANDLING CH GENERATOR SITE LL

| | | |
|-------------------------|--|---|
| WASTE STREAM | MWIR ID | STREAM NAME |
| LL-T004 | LL-T004 | Pyrochemical salt waste (Form 4) |
| MATRIX CODE | Local ID | DESCRIPTION |
| SITE FINAL FORM IDC | Form 4 non-mixed | The waste consists of used chloride and fluoride salts from pyrochemical processes such as electrorefining, molten salt extraction, and direct oxide reduction. |
| Waste Matrix Code Group | Salt Waste | |
| Site Matrix Description | The waste consists primarily of used chloride and fluoride salts from pyrochemical processes such as electrorefining, molten salt extraction, and direct oxide reduction. There may also be up to 20% heterogeneous organic glovebox bagout waste packaged with the salt waste. This waste does not contain any RCRA listed hazardous materials. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT LL 124 TRUCON CODE LL 124

FINAL WASTE FORM DESCRIPTORS:

| | | | | |
|-----------------------|-------------------|---------------------------|------|----------|
| Defense TRU Waste | Mixed TRU | Research and Devel. Waste | TSCA | Asbestos |
| Non-Defense TRU Waste | Non-Mixed TRU | Operations Waste | | PCBs |
| Commercial TRU Waste | Suspect Mixed TRU | Residues | | Other |
| Unknown | Unknown | Decon and Decommissioning | | N/A |
| | | Environmental Restoration | | Unknown |
| | | From Treatment of Waste | | |
| | | Maintenance | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LL

LL-T004

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: Steel
Int. Vol/Ctnr: 0.208 m³

Liner Type: rigid
Liner Material: HDPE

Number Stored: 3
Number Projected: 14

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 20.0 | 0.0 | 100.0 |
| Aluminum-Based Metals/Alloys | 5.0 | 0.0 | 80.0 |
| Other Metals | 2.0 | 0.0 | 50.0 |
| Other Inorganic Materials | 290.0 | 100.0 | 365.0 |
| Cellulosics | 2.0 | 0.0 | 50.0 |
| Rubber | 1.0 | 0.0 | 20.0 |
| Plastics | 20.0 | 5.0 | 100.0 |
| Solidified, Inorganic matrix | 1.0 | 0.0 | 10.0 |
| Solidified, Organic matrix | 1.0 | 0.0 | 10.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 144.0 | | |
| Packaging Material, Plastic | 33.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 0.2 | 0.2 m ³ |
| End of 1993: | 0.6 | 0.6 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.1 | 0.1 m ³ /yr |
| 1996: | 0.1 | 0.1 m ³ /yr |
| 1997: | 0.1 | 0.1 m ³ /yr |
| 1998-2002: | 0.1 | 0.1 m ³ /yr |
| 2003-2022: | 0.1 | 0.1 m ³ /yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 2.81E+00 Curies/m ³ |
| Pu238 | 4.74E-01 Curies/m ³ |
| Pu239 | 2.06E+00 Curies/m ³ |
| Pu240 | 1.66E+00 Curies/m ³ |
| Pu241 | 5.10E+01 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

Comments

Content weight is limited to 76 kg or 365 kg/m³.
All weights are estimates based on process knowledge.
Drum weight averages 30 kg of steel.
Liner + liner bag averages 7 kg of polyethylene.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL WASTE TYPE TRU HANDLING CH GENERATOR SITE LL

| | | | |
|-------------------------|----------|-------------|-----------------------|
| WASTE STREAM | MWIR ID | STREAM NAME | HEPA filters (Form 5) |
| | WIPP ID | | |
| | Local ID | DESCRIPTION | HEPA filters |
| MATRIX CODE | | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | | |
| Site Matrix Description | | | |

The waste matrix is mostly wood framed HEPA filters although some small metal cased HEPA filters are also included. Some of the filters contain asbestos making them California mixed waste.

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|----------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | Asbestos |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | PCBs |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | Other |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | N/A |
| | | | | Environmental Restoration | <input type="checkbox"/> | | Unknown |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU HANDLING CH GENERATOR SITE LL

LL-T005 CONTAINER: Capital Indus. Box
Type/Size:
Container Mat: Steel
Int. Vol/Ctr: 4.003 m3
Liner Type: None
Liner Material:
Number Stored: 4
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 65.0 | 0.0 | 130.0 |
| Aluminum-Based Metals/Alloys | 20.0 | 0.0 | 40.0 |
| Other Metals | 10.0 | 0.0 | 20.0 |
| Other Inorganic Materials | 20.0 | 0.0 | 40.0 |
| Cellulosics | 65.0 | 0.0 | 130.0 |
| Rubber | 10.0 | 0.0 | 20.0 |
| Plastics | 20.0 | 5.0 | 40.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 109.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 16.0 | 16.0 m3 |
| End of 1993: | 16.0 | 16.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 8.00E-03 Curies/m3 |
| Pu239 | 6.50E-02 Curies/m3 |
| Pu240 | 1.50E-02 Curies/m3 |
| Pu241 | 4.40E-01 Curies/m3 |

Comments

Based on composition of typical HEPA filter.
Approximate weight for plastic bags is used in the packaging material/plastic field.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LL

LL-T005

CONTAINER: Standard Waste Box

Type/Size:

Container Mat: Steel

Int. Vol/Ctnr: 1.9 m3

Liner Type: None

Liner Material:

Number Stored: 0

Number Projected: 14

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 65.0 | 0.0 | 130.0 |
| Aluminum-Based Metals/Alloys | 20.0 | 0.0 | 40.0 |
| Other Metals | 10.0 | 0.0 | 20.0 |
| Other Inorganic Materials | 20.0 | 0.0 | 40.0 |
| Cellulosics | 65.0 | 0.0 | 130.0 |
| Rubber | 10.0 | 0.0 | 20.0 |
| Plastics | 20.0 | 5.0 | 40.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 153.0 | | |
| Packaging Material, Plastic | 0.0 | | |

Comments

Maximum content weight for a SWB is 1520 kg or 800 kg/m3.
Other metals is based on composition of typical HEPA filter.
Approximate weight for plastic bags is used for packaging material/plastic field.

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 1.0 | 1.0 m3/yr |
| 1996: | 1.0 | 1.0 m3/yr |
| 1997: | 1.0 | 1.0 m3/yr |
| 1998-2002: | 1.0 | 1.0 m3/yr |
| 2003-2022: | 1.0 | 1.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 8.00E-03 Curies/m3 |
| Pu239 | 6.50E-02 Curies/m3 |
| Pu240 | 1.50E-02 Curies/m3 |
| Pu241 | 4.40E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

LL-T005 - 3

LL - 24

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **LL** WASTE TYPE **TRU** HANDLING **CH** GENERATOR SITE **LL**

LL-T005 CONTAINER: **Drum** Container Mat: **Steel** Number Stored: **3**
 Type/Size: **55-gallon** Int. Vol/Ctnr: **0.208 m3** Number Projected: **29**
 Liner Type: **rigid**
 Liner Material: **HDPE**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 75.0 | 0.0 | 150.0 |
| Aluminum-Based Metals/Alloys | 25.0 | 0.0 | 50.0 |
| Other Metals | 10.0 | 0.0 | 20.0 |
| Other Inorganic Materials | 25.0 | 0.0 | 50.0 |
| Cellulosics | 70.0 | 0.0 | 100.0 |
| Rubber | 10.0 | 0.0 | 20.0 |
| Plastics | 25.0 | 5.0 | 100.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 144.0 | | |
| Packaging Material, Plastic | 33.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.4 m3 |
| End of 1993: | 0.6 | 0.6 m3 |
| 1994: | 0.2 | 0.2 m3/yr |
| 1995: | 0.2 | 0.2 m3/yr |
| 1996: | 0.2 | 0.2 m3/yr |
| 1997: | 0.2 | 0.2 m3/yr |
| 1998-2002: | 0.2 | 0.2 m3/yr |
| 2003-2022: | 0.2 | 0.2 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Cm244 | 4.14E+00 Curies/m3 |
| Am241 | 5.09E-01 Curies/m3 |
| Pu238 | 1.68E-01 Curies/m3 |
| Pu239 | 2.28E-01 Curies/m3 |
| Pu240 | 1.84E-01 Curies/m3 |
| Pu241 | 5.64E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Content weight is limited to 76 kg or 365 kg/m3.
 Weights based on typical HEPA filters.
 Drum weight averages 30 kg of steel.
 Liner + liner bag averages 7 kg of polyethylene.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LL

| | | | |
|--------------------------------|--|--------------------|---|
| WASTE STREAM | MWIR ID LL-W018 | STREAM NAME | Combined metal scrap & incidental combust. (Form 3) |
| | WIPP ID LL-W018 | | |
| MATRIX CODE | Local ID Form 3 mixed | DESCRIPTION | This waste consists of contaminated equipment and laboratory trash too big to fit in 55 gallon drums. This waste does contain RCRA hazardous materials. |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | Uncategorized Metal | | |
| Site Matrix Description | The waste consists mostly of metal scrap such as decommissioned gloveboxes, hoods and other large equipment as well as laboratory trash. Typically it will contain metal components, glassware, ceramics, plastics, paper, and wood. It will be mostly inorganic material, but can vary widely. This waste does contain RCRA listed hazardous materials such as solvents and lead shielding. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT LL 125

TRUCON CODE LL 125

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒

Non-Defense TRU Waste ☐

Commercial TRU Waste ☐

Unknown ☐

Mixed TRU ☐

Non-Mixed TRU ☐

Suspect Mixed TRU ☐

Unknown ☐

☒

Research and Devel. Waste

Operations Waste

Residues

Decon and Decommissioning

Environmental Restoration

From Treatment of Waste

Maintenance

☒

TSCA

Asbestos

PCBs

Other

N/A

Unknown

☐

LL-W018-1

LL - 26

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LL

LL-W018

CONTAINER: Standard Waste Box
Type/Size:

Container Matl: Steel
Int. Vol/Ctnr: 1.9m3

Liner Type: None
Liner Material:

Number Stored: 1
Number Projected: 14

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 150.0 | 0.0 | 800.0 |
| Aluminum-Based Metals/Alloys | 20.0 | 0.0 | 800.0 |
| Other Metals | 10.0 | 0.0 | 800.0 |
| Other Inorganic Materials | 5.0 | 0.0 | 800.0 |
| Cellulosics | 5.0 | 0.0 | 500.0 |
| Rubber | 2.0 | 0.0 | 100.0 |
| Plastics | 20.0 | 5.0 | 200.0 |
| Solidified, Inorganic matrix | 2.0 | 0.0 | 300.0 |
| Solidified, Organic matrix | 2.0 | 0.0 | 300.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 153.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.9 | 1.9 m3 |
| End of 1993: | 1.9 | 1.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 1.0 | 1.0 m3/yr |
| 1996: | 1.0 | 1.0 m3/yr |
| 1997: | 1.0 | 1.0 m3/yr |
| 1998-2002: | 1.0 | 1.0 m3/yr |
| 2003-2022: | 1.0 | 1.0 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 1.04E-02 Curies/m3 |
| Pu239 | 8.78E-03 Curies/m3 |
| Pu240 | 2.03E-02 Curies/m3 |
| Pu241 | 5.94E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008C

Comments

Maximum content weight for a SWB is 1520 kg or 800 kg/m3.
All weights are estimates based on process knowledge.
Approximate weight for plastic bags is used in packaging material/plastic.

LL-W018 - 2

LL - 27

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LL

| | | |
|---|-----------------------|---|
| WASTE STREAM | MWIR ID LL-W019 | STREAM NAME Solidified Waste (Form 2) |
| MATRIX CODE | WIPP ID LL-W019 | DESCRIPTION More than 50 volume percent of this waste consists of solidified water-based or oil-based liquids or solidified fine particles. The remaining waste consists of glovebox bagout waste, laboratory trash and some contaminated equipment. |
| SITE FINAL FORM IDC | Local ID Form 2 Mixed | |
| | | |
| Waste Matrix Code Group Solidified Inorganics | | |
| Site Matrix Description 50 to 90% of this waste matrix consists of liquids solidified in 1 to 5 gallon plastic containers using Portland cement or Aquaset for the waste based liquids and Envirostone or Petroset for the oil-based liquids. The remainder consists of glovebox waste similar to form 1 waste. The waste does contain RCRA listed hazardous materials such as TCE and other solvents. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT LL 111

TRUCON CODE LL 111

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | | <input type="checkbox"/> |

Footnotes

The TRUCON and NMVP assignments for this waste stream only applies to the solidified inorganics in the waste stream.

LL-W019 - 1

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME LL

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LL

LL-W019

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: steel
Int. Vol/Ctnr: 0.208 m³

Liner Type: rigid
Liner Material: HDPE

Number Stored: 4
Number Projected: 31

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 30.0 | 0.0 | 100.0 |
| Aluminum-Based Metals/Alloys | 5.0 | 0.0 | 50.0 |
| Other Metals | 1.0 | 0.0 | 20.0 |
| Other Inorganic Materials | 1.0 | 0.0 | 20.0 |
| Cellulose | 10.0 | 0.0 | 100.0 |
| Rubber | 1.0 | 0.0 | 20.0 |
| Plastics | 20.0 | 5.0 | 100.0 |
| Solidified, Inorganic matrix | 100.0 | 50.0 | 365.0 |
| Solidified, Organic matrix | 100.0 | 50.0 | 365.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 144.0 | | |
| Packaging Material, Plastic | 33.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 0.6 | 0.6 m ³ |
| End of 1993: | 0.8 | 0.8 m ³ |
| 1994: | 0.6 | 0.6 m ³ /yr |
| 1995: | 0.2 | 0.2 m ³ /yr |
| 1996: | 0.2 | 0.2 m ³ /yr |
| 1997: | 0.2 | 0.2 m ³ /yr |
| 1998-2002: | 0.2 | 0.2 m ³ /yr |
| 2003-2022: | 0.2 | 0.2 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D040

F002

Comments

Content weight is limited to 76 kg or 365 kg/m³.
All weights are estimates based on process knowledge.
Drum weight averaged 30 kg of steel.
Liner + liner bag averages 7 kg of polyethylene.

LL-W019 - 2

LL - 29

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MOUND PLANT (MD) WASTE STREAM PROFILES

The following modifications were made by the WTWBIR team in developing the MD waste stream profiles:

- MD Final Waste Form Groups were modified to be consistent with the nomenclature used in the WTWBID. These changes included word and spelling changes. The assigned Final Waste Form Groups are consistent with the information provided by MD.
- The WTWBIR team had to assign identification numbers (IDs) to those MD waste streams not given an identifier by the site.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MD

| | | |
|--|-----------------|--------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | MD-M001 | Asbestos Debris |
| MATRIX CODE | WIPP ID | DESCRIPTION |
| | MD-805 | Asbestos filters |
| SITE FINAL FORM IDC | Local ID | |
| | 5250 | |
| Waste Matrix Code Group Inorganic non-metal Site Matrix Description (24) Asbestos filters, (1) glass filter | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|--------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE MTRU HANDLING CH GENERATOR SITE MD

MD-M001 CONTAINER: Drum Type/Size: 55-gallon

Container Mat: Steel Int. Vol/Ctnr: 0.208 m3

Liner Type: n/a

Number Stored: 1

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 200.0 | 150.0 | 300.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 3.00E-02 Curies/m3 |

Comments

Other inorganic materials - 1 drum asbestos and glass
Activity on Pu239 is less than this figure

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD WASTE TYPE TRU HANDLING CH GENERATOR SITE

| | | |
|---|----------|----------------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | Inorganic Process Residues |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | Solidified TRU Sludge |
| Waste Matrix Code Group Solidified Inorganics | | |
| Site Matrix Description WD TRU sludge, batch #194 | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | |
|-----------------------|-------------------|---------------------------|------|----------|
| Defense TRU Waste | Mixed TRU | Research and Devel. Waste | TSCA | Asbestos |
| Non-Defense TRU Waste | Non-Mixed TRU | Operations Waste | | PCBs |
| Commercial TRU Waste | Suspect Mixed TRU | Residues | | Other |
| Unknown | Unknown | Decon and Decommissioning | | N/A |
| | | Environmental Restoration | | Unknown |
| | | From Treatment of Waste | | |
| | | Maintenance | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU HANDLING CH GENERATOR SITE

MD-T001 CONTAINER: Drum Type/Size: 55-gallon Container Mat: steel Int. Vol/Ctnr: 0.208m3 Liner Type: rigid Liner Material: plastic Number Stored: 23 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulose | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 811.3 | 811.3 | 811.3 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 37.0 | 0.0 | 0.0 |

STORDED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 4.8 | 4.8 m3 |
| End of 1993: | 4.8 | 4.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

There are 23 drums of solidified TRU sludge. Each drum weighs approximately 172kg (net). Therefore, the upper and lower density limits are equal to the average.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE MD

| | | |
|-------------------------|--|-------------------------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID MD-T002 | Plastic/Rubber Debris |
| | Local ID MD-827 | |
| | 5310 | Plastic, rubber & some metal debris |
| MATRIX CODE | | |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | Combustible | |
| Site Matrix Description | Predominately plastic & rubber debris with some metal. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT MD 116A

TRUCON CODE MD 116A

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒

Non-Defense TRU Waste ☐

Commercial TRU Waste ☐

Unknown ☐

Mixed TRU ☐

Non-Mixed TRU ☐

Suspect Mixed TRU ☐

Unknown ☐

☒

☐

☐

☐

Research and Devel. Waste

Operations Waste

Residues

Decon and Decommissioning

Environmental Restoration

From Treatment of Waste

Maintenance

☒

☒

☐

☐

☐

☐

TSCA

Asbestos

PCBs

Other

N/A

Unknown

☐

☐

☒

☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

MD-T002 CONTAINER: Drum Type/Size: 55-gallon Container Mat: Steel Int. Vol/Ctnr: 0.208m3 Liner Type: n/a Liner Material: Number Stored: 17 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 333.5 | 193.8 | 850.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Solids | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 3.5 | 3.5 m3 |
| End of 1993: | 3.5 | 3.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 7.21E+01 Curies/m3 |
| Pu239 | 3.00E-02 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ MD

| | | |
|---|----------|---------------------|
| <u>WASTE STREAM</u> | | <u>STREAM NAME</u> |
| MWIR ID | MD-T003 | Contaminated soil |
| WIPP ID | | |
| Local ID | 842DD000 | |
| MATRIX CODE | 4100 | |
| <u>SITE FINAL FORM IDC</u> | | <u>DESCRIPTION</u> |
| | | TRU soil |
| Waste Matrix Code Group <input type="checkbox"/> Soils Site Matrix Description Hillside hot spot #3 excavation | | |
| NO MIGRATION VARIANCE PETITION ASSIGNMENT MD 111B | | TRUCON CODE MD 111B |

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|--------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input checked="" type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

MD-T003 CONTAINER: Box Type/Size: Type 005 Container Mat: steel Int. Vol/Ctr: 2.37 m3 Liner Type: n/a Liner Material: Number Stored: 28 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 394.4 | 372.8 | 415.7 |
| Packaging Materials, Steel | 0.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 66.4 | 66.4 m3 |
| End of 1993: | 66.4 | 66.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity
Pu238 4.01E-01 Curies/m3

Comments

There are approximately 28 boxes of soil generated predominately from the hillside hot spot #3.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

MD-T003 CONTAINER: Box Type/Size: Type 004
 Container Mat: steel Int. Vol/Ctnr: 4.21 m3
 Liner Type: n/a Liner Material:
 Number Stored: 12
 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 387.3 | 338.9 | 408.5 |
| Packaging Materials, Steel | 0.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 50.5 | 50.5 m3 |
| End of 1993: | 50.5 | 50.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 2.26E-01 Curies/m3 |

Comments

There are 12 boxes of soil generated predominately from the hillside hot spot #3.

| | | | | | | | |
|-----------|----|------------|-----|----------|----|----------------|----|
| SITE NAME | MD | WASTE TYPE | TRU | HANDLING | CH | GENERATOR SITE | MD |
|-----------|----|------------|-----|----------|----|----------------|----|

| | |
|---|-------------|
| NO MIGRATION VARIANCE PETITION ASSIGNMENT | TRUCON CODE |
|---|-------------|

[illegible]

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

MD-T004 CONTAINER: Box Type/Size: Type 004

Container Matl: steel Int. Vol/Ctnr: 4.21 m3

Liner Type: n/a

Number Stored: 4

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 358.1 | 177.6 | 538.7 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 16.8 | 16.8 m3 |
| End of 1993: | 16.8 | 16.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 7.80E-02 Curies/m3 |
| Pu239 | 1.47E-03 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

MD-T004

CONTAINER: Box
Type/Size: Type 003

Container Mat: steel
Int. Vol/Ctnr: 2.32/m3

Liner Type: n/a
Liner Material:

Number Stored: 2
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 532.9 | 451.6 | 604.1 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 4.6 | 4.6 m3 |
| End of 1993: | 4.6 | 4.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.38E-01 Curies/m3 |
| Pu239 | 2.60E-03 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

MD-T004 - 3

MD - 12

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE MD

WASTE STREAM

MWIR ID

WIPP ID MD-T005

Local ID

MD-842

4200

MATRIX CODE

SITE FINAL FORM IDC

STREAM NAME Contaminated soils with debris

DESCRIPTION TRU soil with rock debris

Waste Matrix Code Group

Site Matrix Description

SM-10 & Hillside hot spot #3 excavation.

Soils

NO MIGRATION VARIANCE PETITION ASSIGNMENT MD 111B

TRUCON CODE MD 111B

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste

Non-Defense TRU Waste

Commercial TRU Waste

Unknown

X

Mixed TRU

Non-Mixed TRU

Suspect Mixed TRU

Unknown

X

Research and Devel. Waste

Operations Waste

Residues

Decon and Decommissioning

Environmental Restoration

From Treatment of Waste

Maintenance

X

X

X

X

TSCA

Asbestos

PCBs

Other

N/A

Unknown

X

MD-T005 - 1

MD - 13

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE MD

MD-T005

CONTAINER: Box
Type/Size: Type 005

Container Mat: Steel
Int. Vol/Ctnr: 2.37 m³

Liner Type: n/a
Liner Material:

Number Stored: 2
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 408.0 | 408.0 | 408.0 |
| Packaging Materials, Steel | 0.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 4.7 | 4.7 m ³ |
| End of 1993: | 4.7 | 4.7 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIIC COMPOSITION

Nuclide Activity
Pu238 7.00E-02 Curies/m³

Comments

There are 2 boxes containing soil mixed with florco absorbent from the hillside hot spot spa 3 excavation.

MD-T005 - 2

MD - 14

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

MD-T005 CONTAINER: Box Type/Size: Type 004 Container Mat: steel Int. Vol/Ctnr: 4.21 m3 Liner Type: n/a Liner Material: Number Stored: 6 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 275.3 | 17.8 | 403.9 |
| Packaging Materials, Steel | 0.0 | | |
| Packaging Material, Plastic | 0.0 | | |

Comments

There are 6 boxes containing soil & rock from SM-10.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 25.3 | 25.3 m3 |
| End of 1993: | 25.3 | 25.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

| TYPICAL ISOTOPIC COMPOSITION | | |
|------------------------------|----------|-----------|
| Nuclide | Activity | Curies/m3 |
| Pu238 | 7.00E-02 | |

SITE NAME MD

SITE NAME MD

WASTE TYPE TRII

HANDLING

CENTRO DE INVESTIGACIONES

| | | | | |
|--|--|--|--------------------|----------------------------------|
| <u>WASTE STREAM</u> | | <u>MWIR ID</u> | <u>STREAM NAME</u> | Metal debris w/o lead or cadmium |
| | | <u>WIPP ID</u> | | |
| | | <u>Local ID</u> | | |
| <u>MATRIX CODE</u> | | | <u>DESCRIPTION</u> | D&D metal debris |
| <u>SITE FINAL FORM IDC</u> | | | | |
| | | | | |
| <u>Waste Matrix Code Group</u> | | Uncategorized Metal | | |
| <u>Site Matrix Description</u> | | Metal debris from D&D of Bldgs. 38-10 & 13, SM-10 & 25, R-120 & 149 and wts. | | |
| | | | | |
| <u>NO MIGRATION VARIANCE PETITION ASSIGNMENT</u> | | | | <u>TRUCON CODE</u> |
| MD 117A | | | | MD 117A |

FINAL WASTE FORM DESCRIPTORS:

| Defense TRU Waste | Non-Defense TRU Waste | Commercial TRU Waste | Unknown | Mixed TRU | Non-Mixed TRU | Suspect Mixed TRU | Unknown | Research and Devel. Waste | Operations Waste | Residues | Decon and Decommissioning | Environmental Restoration | From Treatment of Waste | Maintenance | TSCA | Asbestos | PCBs | Other | N/A | Unknown |
|-------------------|-----------------------|----------------------|---------|-----------|---------------|-------------------|---------|---------------------------|------------------|----------|---------------------------|---------------------------|-------------------------|-------------|------|----------|------|-------|-----|---------|
| X | | | | | | | | X | X | | X | | | | X | | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

MD-T006 CONTAINER: Box Type/Size: Type 008 Container Mat: steel Int. Vol/Ctnr: 3.16m3 Liner Type: n/a Liner Material: Number Stored: 2 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 484.3 | 329.4 | 654.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 6.3 | 6.3 m3 |
| End of 1993: | 6.3 | 6.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 5.38E-01 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU V IE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE MD

MD-T006

CONTAINER: Box

Number Stored: 11

Type/Size: Type 004

Container Mat: steel

Number Projected: 0

Int. Vol/Ctnr: 4.21 m3

Liner Type: n/a

Liner Material:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 508.6 | 252.0 | 631.8 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 46.3 | 46.3 m3 |
| End of 1993: | 46.3 | 46.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 4.04E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE MD

MD-T006

CONTAINER: Box

Type/Size: Type 003

Container Mat: Steel

Int. Vol/Ctnr: 2.32/m3

Liner Type: n/a

Liner Material:

Number Stored: 3

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 550.2 | 391.0 | 680.6 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 7.0 | 7.0 m3 |
| End of 1993: | 7.0 | 7.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 4.31E-01 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

| | | |
|-------------------------|--|----------------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | MD-T007 | Uncategorized metal debris |
| MATRIX CODE | Local ID | DESCRIPTION |
| | MD-825 | TRU metal debris |
| SITE FINAL FORM IDC | | |
| | 5190 | |
| Waste Matrix Code Group | Uncategorized Metal | |
| Site Matrix Description | Miscellaneous equipment - hood line trash. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input checked="" type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

MD-T007 CONTAINER: Drum Type/Size: 55-gallon Container Mat: steel Int. Vol/Ctnr: 0.208m3 Liner Type: n/a Liner Material: Number Stored: 24 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 380.0 | 0.0 | 480.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 5.0 | 0.0 | 200.0 |
| Cellulosics | 10.0 | 0.0 | 340.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 5.0 | 5.0 m3 |
| End of 1993: | 5.0 | 5.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1998: | 0.0 | 0.0 m3/yr |
| 1999: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 5.00E+01 Curies/m3 |
| Pu239 | 3.00E-02 Curies/m3 |
| U233 | 5.00E-02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Other inorganic materials - glass
Cellulosics - burnable paper & rags
Activity on Pu239 is less than this figure

MD-T007 - 2

MD - 21

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE MD

| | | |
|---|-----------------|--------------------------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID MD-T008 | Uncategorized plastics/rubber debris |
| | Local ID MD-804 | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | 5319 | Uncategorized plastics/rubber debris |
| Waste Matrix Code Group | | |
| Combustible | | |
| Site Matrix Description | | |
| Plastic and rubber debris from Bldg. 38, Room 149 | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒ Mixed TRU
 Non-Defense TRU Waste ☐ Non-Mixed TRU
 Commercial TRU Waste ☐ Suspect Mixed TRU
 Unknown ☐ Unknown

☐ Research and Devel. Waste
☐ Operations Waste
☐ Residues
☒ Decon and Decommissioning
☐ Environmental Restoration
☐ From Treatment of Waste
☐ Maintenance

TSCA Asbestos
 PCBs
 Other
 N/A
 Unknown

☐ ☐ ☒ ☐ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

MD-T008 CONTAINER: Drum Type/Size: Type 001 Container Mat: steel Int. Vol/Ctnr: 0.208m3 Liner Type: n/a Liner Material: Number Stored: 7 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 228.1 | 211.5 | 246.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.5 | 1.5 m3 |
| End of 1993: | 1.5 | 1.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity
Pu238 6.59E+01 Curies/m3

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

| | | |
|---|----------------------------------|----------------------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | MD-T009 | Uncategorized combustible debris |
| MATRIX CODE | WIPP ID | DESCRIPTION |
| | MD. 801+804 | Uncategorized combustible debris |
| SITE FINAL FORM IDC | Local ID | |
| | 5390 | |
| Waste Matrix Code Group | Combustible | |
| Site Matrix Description | Uncategorized combustible debris | |
| NO MIGRATION VARIANCE PETITION ASSIGNMENT | | TRUCON CODE |

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|--------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input checked="" type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input checked="" type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

MD-T009 CONTAINER: Drum Type/Size: Type 001 Container Matl: Steel Int. Vol/Ctnr: 0.208/m3 Liner Type: p/a Liner Material: Number Stored: 1 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average |
|------------------------------|---------|
| Iron-based Metals/Alloys | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 |
| Other Metals | 0.0 |
| Other Inorganic Materials | 0.0 |
| Cellulosics | 50.0 |
| Rubber | 0.0 |
| Plastics | 0.0 |
| Solidified, Inorganic matrix | 0.0 |
| Solidified, Organic matrix | 0.0 |
| Soils | 0.0 |
| Packaging Materials, Steel | 131.0 |
| Packaging Material, Plastic | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Lower Limit | Upper Limit |
|--------------|-------------|-------------|
| End of 1992: | 0.0 | 0.0 |
| End of 1993: | 0.0 | 0.0 |
| 1994: | 0.0 | 0.0 |
| 1995: | 0.0 | 0.0 |
| 1996: | 0.0 | 0.0 |
| 1997: | 0.0 | 0.0 |
| 1998-2002: | 0.0 | 0.0 |
| 2003-2022: | 0.0 | 0.0 |

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 3.10E+01 Curies/m3 |
| Pu239 | 8.84E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ MD

| | | |
|----------------------------|----------|-----------------------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | Composite filters |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | Glass + metal filters, cans-glass |
| Waste Matrix Code Group | | |
| Site Matrix Description | | |
| Heterogeneous | | |
| Filters from Bldgs. 38-113 | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒ Mixed TRU
 Non-Defense TRU Waste ☐ Non-Mixed TRU
 Commercial TRU Waste ☐ Suspect Mixed TRU
 Unknown ☐ Unknown

☐ ☒ ☐ ☐

Research and Devel. Waste
 Operations Waste
 Residues
 Decon and Decommissioning
 Environmental Restoration
 From Treatment of Waste
 Maintenance

☒ ☐ ☐ ☒ ☐ ☐ ☐

TSCA Asbestos
 PCBs
 Other
 N/A
 Unknown

☐ ☐ ☐ ☒ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE MD

| | | | | |
|---------|---|--|------------------------------------|---|
| MD-T010 | CONTAINER: Drum Type/Size: 55-gallon | Container Mat: steel Int. Vol/Ctnr: 0.208m3 | Liner Type: n/a Liner Material: | Number Stored: 2 Number Projected: 0 |
|---------|---|--|------------------------------------|---|

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 200.0 | 50.0 | 350.0 |
| Aluminum-Based Metals/Alloys | 100.0 | 5.0 | 200.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 200.0 | 50.0 | 350.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 100.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | 10.0 | 150.0 |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.4 m3 |
| End of 1993: | 0.4 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.60E+00 Curies/m3 |
| Pu239 | 3.00E-02 Curies/m3 |

Comments

Iron-based metal - fractions of metal, glass are estimated.
Soils - filters media is used.
Activities on Pu238 and Pu239 are both less than these figures.

MD-T010 - 2

MD - 27

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE MD

| | | |
|--|-----------------|---|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | MD-T011 | Predominately metal debris |
| MATRIX CODE | WIPP ID | |
| | MD824 | |
| SITE FINAL FORM IDC | Local ID | DESCRIPTION |
| | 5420 | Sheet metal, piping, chair, conduit, glovebox |
| Waste Matrix Code Group Uncategorized Metal | | |
| Site Matrix Description Scrap from Bldg. R-140, PP-10, PP-16, R-149, 38-10 | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT MD 117A

TRUCON CODE MD 117A

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
|-------------------------------------|

Research and Devel. Waste
 Operations Waste
 Residues
 Decon and Decommissioning
 Environmental Restoration
 From Treatment of Waste
 Maintenance

| | | | | | | |
|-------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|

TSCA Asbestos
 PCBs
 Other
 N/A
 Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

MD-T011 CONTAINER: Box Type/Size: Type 008 Container Matl: Steel Int. Vol/Ctnr: 3.16m3 Liner Type: n/a Liner Material: Number Stored: 1 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 300.0 | 200.0 | 438.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORDED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 3.2 | 3.2 m3 |
| End of 1993: | 3.2 | 3.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 6.00E-01 Curies/m3 |

Comments

Iron-based metal - "scrap" unknown material parameter
Pu238 activity is less than this amount.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

MD-T011 CONTAINER: Box Type/Size: Type 004
 Container Matl: Steel Liner Type: n/a
 Int. Vol/Ctnr: 4.21 m3 Liner Material:
 Number Stored: 3
 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average |
|------------------------------|---------|
| Iron-based Metals/Alloys | 250.0 |
| Aluminum-Based Metals/Alloys | 0.0 |
| Other Metals | 0.0 |
| Other Inorganic Materials | 0.0 |
| Cellulosics | 0.0 |
| Rubber | 0.0 |
| Plastics | 0.0 |
| Solidified, Inorganic matrix | 0.0 |
| Solidified, Organic matrix | 0.0 |
| Soils | 0.0 |
| Packaging Materials, Steel | 0.0 |
| Packaging Material, Plastic | 0.0 |

| | Lower Limit | Upper Limit |
|--------------|-------------|-------------|
| End of 1992: | 0.0 | 300.0 |
| End of 1993: | 0.0 | 0.0 |
| 1994: | 0.0 | 0.0 |
| 1995: | 0.0 | 0.0 |
| 1996: | 0.0 | 0.0 |
| 1997: | 0.0 | 0.0 |
| 1998-2002: | 0.0 | 0.0 |
| 2003-2022: | 0.0 | 0.0 |

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 12.6 | 12.6 m3 |
| End of 1993: | 12.6 | 12.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Iron-based metal - metal assumed to be iron-based.
 "Misc. waste" unknown material parameters.

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.00E-02 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

MD-T011 CONTAINER: Drum Type/Size: 55-gallon

Container Matl: steel Int. Vol/Ctnr: 0.208m3

Liner Type: p/a

Number Stored: 2

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulose | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.4 m3 |
| End of 1993: | 0.4 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 4.00E+00 Curies/m3 |

Comments

Drum weights not known.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

| | | |
|---|-----------------|--|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID MD-T012 | Uncategorized heterogeneous debris |
| MATRIX CODE | Local ID MD-925 | DESCRIPTION Metal, glass, asbestos filters |
| SITE FINAL FORM IDC | 5490 | |
| Waste Matrix Code Group Heterogeneous | | |
| Site Matrix Description Bldg. PP-113, R-140 | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

TSCA
Asbestos
PCBs
Other
N/A
Unknown

X

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE MD

MD-T012

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: unknown

Liner Material:

Number Stored: 3

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 205.0 | 10.0 | 400.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 50.0 | 10.0 | 100.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.6 | 0.6 m3 |
| End of 1993: | 0.6 | 0.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Iron-based metals - average is mid point
Aluminum-based metals - possible
Solidified, organic matrix - "CO3" 30 gallon in liner
Pu239 activity is less than this amount

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 3.00E-02 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE MD

| | | | |
|--------------------------------|---------|---|----------------------|
| WASTE STREAM | | STREAM NAME | Leaded gloves/aprons |
| WPP ID | MD-T013 | DESCRIPTION | Leaded gloves/aprons |
| Local ID | 5311 | | |
| MATRIX CODE | | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Combustible | |
| Site Matrix Description | | Lead gloves, plastics from Bldg. 38, glass, lead gloves, 4 - 1 litre bottles, 3 - poly bottles from R Bldg. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|---|
| Defense TRU Waste | X |
| Non-Defense TRU Waste | |
| Commercial TRU Waste | |
| Unknown | |

| | |
|-------------------|--|
| Mixed TRU | |
| Non-Mixed TRU | |
| Suspect Mixed TRU | |
| Unknown | |

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | |
|---|--|--|--|--|
| X | | | | |
| X | | | | |
| | | | | |
| X | | | | |
| | | | | |

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--|--|---|--|--|
| | | | | |
| | | X | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU HANDLING CH GENERATOR SITE MD

| | | | | |
|---------|--|---|------------------------------------|---|
| MD-T013 | CONTAINER: Drum Type/Size: Type 001 | Container Mat: steel Int. Vol/Ctnr: 0.208 m ³ | Liner Type: n/a Liner Material: | Number Stored: 2 Number Projected: 0 |
|---------|--|---|------------------------------------|---|

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 336.1 | 313.9 | 358.2 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulose | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 0.4 | 0.4 m ³ |
| End of 1993: | 0.4 | 0.4 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| PU238 | 1.63E+00 Curies/m ³ |
| PU239 | 3.70E+00 Curies/m ³ |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD WASTE TYPE MTRU HANDLING CH GENERATOR SITE MD

| | | | |
|---------------------|-----------------|-------------|--------------------------|
| WASTE STREAM | MMIR ID MD-W002 | STREAM NAME | Absorbed Aqueous Liquids |
| | WIPP ID MD-W002 | | |
| | Local ID MD-833 | DESCRIPTION | Corrosives - TRU |
| MATRIX CODE | 3150 | | |
| SITE FINAL FORM IDC | | | |

Waste Matrix Code Group
 Site Matrix Description
 Solidified Inorganics
 TRU waste from PP-113, R-140, R-149

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input checked="" type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MD

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE MD

MD-W002

CONTAINER: Drum
Type/Size:

Container Matl: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type: n/a
Liner Material:

Number Stored: 12
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2.5 | 2.5 m3 |
| End of 1993: | 2.5 | 2.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D002B

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.63E+00 Curies/m3 |

Comments

Typical activity is less than 1.63E+00

UNIVERSITY OF MISSOURI (MU) WASTE STREAM PROFILES

The following assumptions/modifications were made by the WTWBIR team in developing the MU waste stream profiles:

- MU Final Waste Form Groups were modified to be consistent with the nomenclature used in the WTWBID. These changes included word and spelling changes. The assigned Final Waste Form Groups are consistent with the information provided by MU.
- Since only current volumes were provided by MU, the final form volumes were assumed to be the same as the current volumes.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MU

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MU

WASTE STREAM

MWIR ID MU-W002

STREAM NAME

Heterogeneous Debris

WIPP ID

MU-W002

DESCRIPTION

Mixed TRU Waste

Local ID

5400

MATRIX CODE

SITE FINAL FORM IDC

Waste Matrix Code Group

Heterogeneous

Site Matrix Description

MTRU Heterogeneous Debris. The radioactive wastes generated on the project will come first from normal operations and second from the D&D of the facility at the end of the project. Radioactive wastes from normal operation will consist of the following: 1) HEPA filters from the glovebox, 2) HEPA filters from offgas and room filtration systems, 3) paper wipes from periodic cleaning of the gloveboxes, and 4) used sample bottles.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste

Non-Defense TRU Waste

Commercial TRU Waste

Unknown

Mixed TRU

Non-Mixed TRU

Suspect Mixed TRU

Unknown

Research and Devel. Waste

Operations Waste

Residues

Decon and Decommissioning

Environmental Restoration

From Treatment of Waste

Maintenance

TSCA

Asbestos

PCBs

Other

N/A

Unknown

MU-W002 - 1

MU - 1

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME MU

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE MU

MU-W002

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Steel
Int. Vol/Ctnr: 0.208 m³

Liner Type: bag
Liner Material: 4 ml plastic

Number Stored: 0
Number Projected: 8

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average |
|------------------------------|---------|
| Iron-based Metals/Alloys | 11.3 |
| Aluminum-Based Metals/Alloys | 0.0 |
| Other Metals | 0.0 |
| Other Inorganic Materials | 25.0 |
| Cellulosics | 2.5 |
| Rubber | 25.0 |
| Plastics | 37.5 |
| Solidified, Inorganic matrix | 0.0 |
| Solidified, Organic matrix | 0.0 |
| Soils | 0.0 |
| Packaging Materials, Steel | 0.0 |
| Packaging Material, Plastic | 0.0 |

| Upper Limit |
|-------------|
| 20.0 |
| 0.0 |
| 0.0 |
| 0.0 |
| 60.0 |
| 10.0 |
| 50.0 |
| 80.0 |
| 0.0 |
| 0.0 |
| 0.0 |
| 0.0 |

| Projected |
|-----------|
| 0.000 |
| 0.060 |
| 0.080 |
| 0.080 |
| 0.080 |
| 0.080 |
| 1.364 |
| 0.000 |
| 0.000 |

| Final Form |
|--------------------------|
| 0.000 m ³ |
| 0.060 m ³ |
| 0.080 m ³ /yr |
| 0.080 m ³ /yr |
| 0.080 m ³ /yr |
| 1.364 m ³ /yr |
| 0.000 m ³ /yr |
| 0.000 m ³ /yr |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 8.00E-01 Curies/m ³ |
| Np237 | 3.00E-03 Curies/m ³ |
| Pu239 | 3.40E-01 Curies/m ³ |
| U238 | 1.60E-09 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D006A
D011A

NEVADA TEST SITE (NT) WASTE STREAM PROFILES

The following assumptions/modifications were made by the WTWBIR team in developing the NT waste stream profiles:

- NT Final Waste Form Groups were modified to be consistent with the nomenclature used in the WTWBID. These changes included word and spelling changes. The assigned Final Waste Form Groups are consistent with the information provided by NT.
- The material parameters for NT waste streams were added by the WTWBIR team based on volume weighted averages of appropriate waste streams from LL. All of the NT TRU waste is assumed to be waste from LL.
- Final form volumes were not provided by NT for individual years. Based on agreements with the site, the same value for the total projected volume was reported as the final form volume for the years 2003 to 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME NT

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LL

WASTE STREAM

MWIR ID NT-W001

WIPP ID NT-W001

Local ID LL-002

MATRIX CODE

5490

SITE FINAL FORM IDC

STREAM NAME

Heterogeneous Debris, Uncategorized

DESCRIPTION

NTS STORED, TRU WASTE FROM LLNL

Waste Matrix Code Group

Site Matrix Description

Heterogeneous

This waste stream consists of glovebox parts, laboratory trash, contaminated equipment, and solidified sludges. Real time radiography has been performed on the waste to verify there are no free liquids present, with the exception of liquid in aerosol cans. Most of the waste is contact handled TRU waste; one and 3 drums are remote handled. The waste stream was generated at Lawrence Livermore National Laboratory, Livermore, CA (LLNL) and shipped to the NTS from 1974 until 1990. The waste was declared as potentially mixed TRU waste by the generator in April, 1991.

NO MIGRATION VARIANCE PETITION ASSIGNMENT NT 111; 116; 211; 225

TRUCON CODE NT 111; 116; 211; 225

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

X

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

X

Rsearch and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

X

TSCA
Asbestos
PCBs
Other
N/A
Unknown

X

NT-W001 - 1

NT - 1

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME NT

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ LL

NT-W001 CONTAINER: SWB Type/Size: Container Mat: Liner Type: Number Stored:
 Int. Vol/Ctnr: 1.9m3 Liner Material: Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 151.3 | 13.8 | 554.0 |
| Aluminum-Based Metals/Alloys | 21.4 | 0.0 | 512.0 |
| Other Metals | 10.8 | 0.0 | 483.0 |
| Other Inorganic Materials | 6.8 | 0.0 | 475.0 |
| Cellulosics | 11.3 | 0.0 | 313.0 |
| Rubber | 3.1 | 0.0 | 62.9 |
| Plastics | 4.7 | 1.9 | 128.0 |
| Solidified, Inorganic matrix | 1.7 | 0.0 | 177.0 |
| Solidified, Organic matrix | 1.7 | 0.0 | 177.0 |
| Soils | 0.0 | 0.0 | 0.1 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 272.0 | 275.5 m3 |
| End of 1993: | 272.0 | 275.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

CA181
 CA352
 D001A
 D001C
 D002B
 D003D
 D006A
 D007A
 D008C
 D011A
 F001
 F002
 F003
 P015

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| AM241 | 4.90E-01 Curies/m3 |
| AM243 | 1.99E-03 Curies/m3 |
| CF249 | 1.89E-05 Curies/m3 |
| CF250 | 5.28E-04 Curies/m3 |
| CF252 | 8.94E-03 Curies/m3 |
| C14 | 4.08E-07 Curies/m3 |
| CS137 | 6.54E-05 Curies/m3 |
| CM243 | 1.10E-06 Curies/m3 |
| CM244 | 6.79E-01 Curies/m3 |
| CM248 | 1.05E-11 Curies/m3 |
| EU152 | 3.32E-03 Curies/m3 |
| EU154 | 1.98E-03 Curies/m3 |
| H3 | 2.04E-04 Curies/m3 |
| KR85 | 6.53E-04 Curies/m3 |
| MFP | 3.41E-02 Curies/m3 |
| NP237 | 7.82E-06 Curies/m3 |
| PU238 | 2.41E-01 Curies/m3 |
| PU239 | 4.54E+00 Curies/m3 |
| PU240 | 3.05E-02 Curies/m3 |
| PU241 | 5.60E-01 Curies/m3 |
| PU242 | 1.42E-04 Curies/m3 |
| PU244 | 1.63E-09 Curies/m3 |
| PU231 | 8.16E-07 Curies/m3 |
| RA226 | 4.09E-04 Curies/m3 |
| SR90 | 2.24E-07 Curies/m3 |
| TH228 | 4.03E-06 Curies/m3 |
| U232 | 2.95E-05 Curies/m3 |
| U233 | 2.94E-03 Curies/m3 |
| U234 | 8.16E-06 Curies/m3 |
| U235 | 1.71E-07 Curies/m3 |
| U238 | 5.45E-08 Curies/m3 |

Comments

- This waste stream/container combination contains material regulated under California Hazardous Waste codes CA352 and CA181.
- Most of this waste was packaged before RCRA characterization requirements were imposed; the generator is not confident about waste content
- Isotope content, activity, quantity, and EPA codes were established based on info provided by LLNL.
- Assumptions:
 - Contents of 1636 55-gal. drums and one 85 - gal drum will fit inside 1,637 0.208 m3 drums.
 - Two boxes contain 12 drums, whose contents will be transferred to 12 0.208 m3 drums.
 - Empty 55-gal. overpacks are decontaminated and/or disposed as LLW, generating 3 drums (0.208 m3/drum) of decon residue, i.e., rags, kimwipes, clothing, carbon filter vents, and gaskets.
 - Empty 55-gal. drums are decontaminated and/or disposed as LLW, generating 2 drums (0.208 m3 drum) and 1 SWB of decon residue.
- 58 steel, oversized boxes: 1) Contents are size-reduced to fit inside 143 SWBs;

NT - 2

2/28/95

NT-W001 - 2

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME NT

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LL

2) Empty boxes decontaminated to LLW concentrations, with 1 SWB of decon residue generated.

- Of total volume, 612 m3, and curies for isotopes with > 1 yr T 1/2's, 4,039 curies:
 - Drums comprise 55.6% of volume, with 2,245,684 Ci.
 - Boxes comprise 44.4% of volume, with 1,793,316 Ci
 - Packages (drums & boxes) average 6.593 Ci/m3.
- PU-239 total grams, 6,300.5:
 - Packages (drums & boxes) average 10.28 g/m3.

D38(Du) 1.97E-07 Curies/m3

NT-W001 - 3

NT - 3

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME NT

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE LL

NT-W001

CONTAINER: Drum

Type/Size: 55 gallon

Container Mat: Steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: Rigid

Liner Material: HDPE 90 mil.

Number Stored: 1637

Number Projected: 17

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 9.9 | 0.0 | 319.0 |
| Aluminum-Based Metals/Alloys | 5.2 | 0.0 | 310.0 |
| Other Metals | 1.9 | 0.0 | 305.0 |
| Other Inorganic Materials | 3.3 | 0.7 | 171.0 |
| Cellulosics | 84.9 | 0.0 | 318.0 |
| Rubber | 4.4 | 0.0 | 168.0 |
| Plastics | 85.9 | 5.1 | 318.0 |
| Solidified, Inorganic matrix | 19.7 | 7.8 | 139.0 |
| Solidified, Organic matrix | 19.7 | 7.8 | 139.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 340.6 | 344.0 m3 |
| End of 1993: | 340.6 | 344.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

CA181
CA352
D001A
D001C
D002B
D003D
D006A
D007A
D008C
D011A
F001
F002
F003
P015

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| AM241 | 4.70E-01 Curies/m3 |
| AM243 | 1.99E-03 Curies/m3 |
| CF249 | 1.89E-05 Curies/m3 |
| CF250 | 5.29E-04 Curies/m3 |
| CF252 | 8.95E-03 Curies/m3 |
| C14 | 4.08E-07 Curies/m3 |
| CS137 | 6.55E-05 Curies/m3 |
| Cm243 | 1.10E-06 Curies/m3 |
| Cm244 | 6.79E-01 Curies/m3 |
| Cm248 | 1.05E-11 Curies/m3 |
| EU152 | 3.32E-03 Curies/m3 |
| EU154 | 1.99E-03 Curies/m3 |
| H3 | 2.04E-04 Curies/m3 |
| KR85 | 6.53E-04 Curies/m3 |
| MFP | 3.41E-02 Curies/m3 |
| NP237 | 7.82E-06 Curies/m3 |
| PU238 | 2.41E-01 Curies/m3 |
| PU239 | 4.54E+00 Curies/m3 |
| PU240 | 3.05E-02 Curies/m3 |
| PU241 | 5.60E-01 Curies/m3 |
| PU242 | 1.42E-04 Curies/m3 |
| PU244 | 1.63E-09 Curies/m3 |
| PA231 | 8.16E-07 Curies/m3 |
| RA226 | 4.09E-04 Curies/m3 |
| SR90 | 2.24E-07 Curies/m3 |
| TH228 | 4.03E-06 Curies/m3 |
| U232 | 2.95E-05 Curies/m3 |
| U233 | 2.94E-03 Curies/m3 |
| U234 | 8.16E-06 Curies/m3 |
| U235 | 1.71E-07 Curies/m3 |
| U238 | 5.45E-08 Curies/m3 |

Comments

- This waste stream/container combination contains material regulated under California Hazardous Waste codes CA352 and CA181.
 - Most of this waste was packaged before RCRA characterization requirements were imposed; the generator is not confident about waste content
 - Isotope content, activity, quantity, and EPA codes were established based on info provided by LLNL.
- Assumptions:
- Contents of 1636 55-gal. drums and one 85 - gal drum will fit inside 1,637 0.208 m3 drums.
 - Two boxes contain 12 drums, whose contents will be transferred to 12 0.208 m3 drums.
 - Empty 55-gal. overpacks are decontaminated and/or disposed as LLW, generating 3 drums (0.208 m3/drum) of decon residue, i.e., rags, kimwipes, clothing, carbon filter vents, and gaskets.
 - Empty 55-gal. drums are decontaminated and/or disposed as LLW, generating 2 drums (0.208 m3 drum) and 1 SWB of decon residue.
 - 58 steel, oversized boxes: 1) Contents are size-reduced to fit inside 143 SWBs;

NT-W001 - 4

NT - 4

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME NT

| | | | | | |
|------------|------|----------|----|----------------|----|
| WASTE TYPE | MTRU | HANDLING | CH | GENERATOR SITE | LL |
|------------|------|----------|----|----------------|----|

| | D38 (du) | 1.97E-07 | Curies/m3 |
|--|----------|----------|-----------|
| 2) Empty boxes deconned to LLW concentrations, with 1 SWB of decon residue generated. | | | Curies/m3 |
| <ul style="list-style-type: none"> - Of total volume, 612 m3, and curies for isotopes with > 1 yr T 1/2's, 4,039 curies: <ul style="list-style-type: none"> - Drums comprise 55.6% of volume, with 2,245,684 Ci. - Boxes comprise 44.4% of volume, with 1,793,316 Ci - Packages (drums & boxes) average 6.593 Ci/m3. - PU-239 total grams, 6,300.5: <ul style="list-style-type: none"> - Packages (drums & boxes) average 10.28 g/m3. | | | |

NT-W001 - 5

NT - 5

2/28/95

OAK RIDGE NATIONAL LABORATORY (OR) WASTE STREAM PROFILES

The following assumptions/modifications were made by the WTWBIR team in developing the OR waste stream profiles:

- OR Final Waste Form Groups were modified to be consistent with the nomenclature used in the WTWBID. These changes included word and spelling changes. The assigned Final Waste Form Groups are consistent with the information provided by OR.
- Since only current volumes were provided by OR, the final form volumes were assumed to be the same as the current volumes.
- Based on agreements with OR, the volumes per year for 1998-2002 and 2003-2022 were corrected to reflect the appropriate number of years.
- OR reported all containers for each waste stream on one form. In order to maintain consistency with the other sites, forms for each type of container were developed by the WTWBIR team. All of the information on the container form remained the same as reported by OR, except that the volume information for each container was recalculated. These calculations were based on the total number of each container, the volume of each container, and the total volumes reported by OR. The volumes for three casks were listed as unknown. The volumes were assumed to be an average of the other casks submitted by OR.

WASTE STREAM PROFILE FOR THE WIPP TRU OR-W040 BASELINE INVENTORY REPORT

NAME OR

| | | | | | | | | | |
|---|--|---------|---------|---|-----|----------|----|----------------|----|
| WASTE STREAM | | MWIR ID | OR-W040 | WASTE TYPE | TRU | HANDLING | RH | GENERATOR SITE | OR |
| WIPP ID | | OR-W040 | | STREAM NAME | | | | | |
| Local ID | | 2039 | | RH TRU Heterogeneous Debris | | | | | |
| MATRIX CODE | | 5400 | | DESCRIPTION | | | | | |
| SITE FINAL FORM IDC | | 2039 | | 5490 Uncategorized Heterogeneous Debris | | | | | |
| Waste Matrix Code Group | | | | Heterogeneous | | | | | |
| Site Matrix Description | | | | This waste stream consists of RH TRU waste which is classified as contaminated equipment, decontamination debris or dry solids. The physical form is solid. This waste is categorized as heterogeneous debris (matrix code 5400). | | | | | |
| NO MIGRATION VARIANCE PETITION ASSIGNMENT | | | | TRUCON CODE | | | | | |
| FINAL WASTE FORM DESCRIPTORS: | | | | | | | | | |

| | | | | |
|--|--|--|---|--|
| Defense TRU Waste <input checked="" type="checkbox"/> | Mixed TRU <input checked="" type="checkbox"/> | Research and Devel. Waste <input checked="" type="checkbox"/> | TSCA <input checked="" type="checkbox"/> | Asbestos <input type="checkbox"/> |
| Non-Defense TRU Waste <input type="checkbox"/> | Non-Mixed TRU <input type="checkbox"/> | Operations Waste <input type="checkbox"/> | PCBs <input type="checkbox"/> | Other <input type="checkbox"/> |
| Commercial TRU Waste <input type="checkbox"/> | Suspect Mixed TRU <input type="checkbox"/> | Residues <input type="checkbox"/> | Decon and Decommissioning <input type="checkbox"/> | N/A <input type="checkbox"/> |
| Unknown <input type="checkbox"/> | Unknown <input type="checkbox"/> | Environmental Restoration <input type="checkbox"/> | From Treatment of Waste <input type="checkbox"/> | Unknown <input checked="" type="checkbox"/> |
| Maintenance <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE OR

OR-W040

CONTAINER: Cask

Type/Size:

Container Matl:
 Int. Vol/Cntr: m3

Liner Type:
 Liner Material:

Number Stored: 3
 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 3.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

Comments

External volume of these casks are unknown.

5490 Uncategorized Heterogeneous Debris information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPJP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

STORDED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 5.0 | 5.0 m3 |
| End of 1993: | 5.0 | 5.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Ac227 | 1.00E-03 Curies/m3 |
| Am241 | 3.89E+00 Curies/m3 |
| Am243 | 9.99E-05 Curies/m3 |
| Bk249 | 9.99E-05 Curies/m3 |
| Cf249 | 3.38E-03 Curies/m3 |
| Cf252 | 2.52E-01 Curies/m3 |
| Cm244 | 1.70E+00 Curies/m3 |
| Co60 | 3.50E+00 Curies/m3 |
| Cs137 | 3.70E+02 Curies/m3 |
| Pu238 | 1.19E+01 Curies/m3 |
| Pu239 | 4.47E+00 Curies/m3 |
| Pu241 | 4.32E+00 Curies/m3 |
| Ra223 | 1.00E-03 Curies/m3 |
| Sr90 | 4.26E+02 Curies/m3 |
| Th232 | 5.00E-04 Curies/m3 |
| U233 | 3.95E-01 Curies/m3 |
| U235 | 1.00E-04 Curies/m3 |
| U238 | 9.17E-05 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ RH ☐ GENERATOR SITE ☐ OR

OR-W040 CONTAINER: ☐ Drum
Type/Size: ☐ 55-gallon

Container Matl: ☐ BI
Int. Vol/Cntr: ☐ 0.21 m3

Liner Type: ☐
Liner Material: ☐

Number Stored: ☐ 1
Number Projected: ☐ 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 3.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 141.8 | | |
| Packaging Material, Plastic | 39.4 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Ac227 | 1.00E-03 Curies/m3 |
| Am241 | 3.89E+00 Curies/m3 |
| Am243 | 9.99E-05 Curies/m3 |
| Bk249 | 9.99E-05 Curies/m3 |
| Cf249 | 3.38E-03 Curies/m3 |
| Cf252 | 2.52E-01 Curies/m3 |
| Cm244 | 1.70E+00 Curies/m3 |
| Co60 | 3.50E+00 Curies/m3 |
| Cs137 | 3.70E+02 Curies/m3 |
| Pu238 | 1.19E+01 Curies/m3 |
| Pu239 | 4.47E+00 Curies/m3 |
| Pu241 | 4.32E+00 Curies/m3 |
| Ra223 | 1.00E-03 Curies/m3 |
| Sr90 | 4.26E+02 Curies/m3 |
| Th232 | 5.00E-04 Curies/m3 |
| U233 | 3.95E-01 Curies/m3 |
| U235 | 1.00E-04 Curies/m3 |
| U238 | 9.17E-05 Curies/m3 |

Comments

5490 Uncategorized Heterogeneous Debris information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

OR-W040 - 3

OR - 3

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE MTRU

HANDLING RH

GENERATOR SITE OR

OR-W040

CONTAINER: Cask

Type/Size:

Container Matl: Concrete

Int. Vol/Ctnr: 1.66 m3

Liner Type:

Liner Material:

Number Stored: 39

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 3.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 64.7 | 64.7 m3 |
| End of 1993: | 64.7 | 64.7 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Ac227 | 1.00E-03 Curies/m3 |
| Am241 | 3.89E+00 Curies/m3 |
| Am243 | 9.99E-05 Curies/m3 |
| Bk249 | 9.99E-05 Curies/m3 |
| Cf249 | 3.38E-03 Curies/m3 |
| Cf252 | 2.52E-01 Curies/m3 |
| Cm244 | 1.70E+00 Curies/m3 |
| Co60 | 3.50E+00 Curies/m3 |
| Cs137 | 3.70E+02 Curies/m3 |
| Pu238 | 1.19E+01 Curies/m3 |
| Pu239 | 4.47E+00 Curies/m3 |
| Pu241 | 4.32E+00 Curies/m3 |
| Ra223 | 1.00E-03 Curies/m3 |
| Sr90 | 4.26E+02 Curies/m3 |
| Th232 | 5.00E-04 Curies/m3 |
| U233 | 3.95E-01 Curies/m3 |
| U235 | 1.00E-04 Curies/m3 |
| U238 | 9.17E-05 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

Comments

5490 Uncategorized Heterogeneous Debris information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPJP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ RH ☐ GENERATOR SITE ☐ OR

OR-W040 CONTAINER: Cask
Type/Size:

Container Mat: concrete
Int. Vol/Ctnr: 1.9m3

Liner Type:
Liner Material:

Number Stored: 156
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 3.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 296.4 | 296.4 m3 |
| End of 1993: | 296.4 | 296.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Ac227 | 1.00E-03 Curies/m3 |
| Am241 | 3.89E+00 Curies/m3 |
| Am243 | 9.99E-05 Curies/m3 |
| Bk249 | 9.99E-05 Curies/m3 |
| Cf249 | 3.38E-03 Curies/m3 |
| Cf252 | 2.52E-01 Curies/m3 |
| Cm244 | 1.70E+00 Curies/m3 |
| Co60 | 3.50E+00 Curies/m3 |
| Cs137 | 3.70E+02 Curies/m3 |
| Pu238 | 1.19E+01 Curies/m3 |
| Pu239 | 4.47E+00 Curies/m3 |
| Pu241 | 4.32E+00 Curies/m3 |
| Ra223 | 1.00E-03 Curies/m3 |
| Sr90 | 4.26E+02 Curies/m3 |
| Th232 | 5.00E-04 Curies/m3 |
| U233 | 3.95E-01 Curies/m3 |
| U235 | 1.00E-04 Curies/m3 |
| U238 | 9.17E-05 Curies/m3 |

Comments

5490 Uncategorized Heterogeneous Debris Information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPIP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ RH ☐ GENERATOR SITE ☐ OR

OR-W040 CONTAINER: Drum
Type/Size: 30-gallon

Container Mat: stainless steel
Int. Vol/Ctnr: 0.11 m3
Liner Type: ☐
Liner Material: ☐

Number Stored: 87
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulose | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 3.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 141.8 | 0.0 | 39.4 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 9.6 | 9.6 m3 |
| End of 1993: | 9.6 | 9.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Ac227 | 1.00E-03 Curies/m3 |
| Am241 | 3.89E+00 Curies/m3 |
| Am243 | 9.99E-05 Curies/m3 |
| Bk249 | 9.99E-05 Curies/m3 |
| Cf249 | 3.38E-03 Curies/m3 |
| Cf252 | 2.52E-01 Curies/m3 |
| Cm244 | 1.70E+00 Curies/m3 |
| Co60 | 3.50E+00 Curies/m3 |
| Cs137 | 3.70E+02 Curies/m3 |
| Pu238 | 1.19E+01 Curies/m3 |
| Pu239 | 4.47E+00 Curies/m3 |
| Pu241 | 4.32E+00 Curies/m3 |
| Ra223 | 1.00E-03 Curies/m3 |
| Sr90 | 4.26E+02 Curies/m3 |
| Th232 | 5.00E-04 Curies/m3 |
| U233 | 3.95E-01 Curies/m3 |
| U235 | 1.00E-04 Curies/m3 |
| U238 | 9.17E-05 Curies/m3 |

Comments

5490 Uncategorized Heterogeneous Debris information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPIP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE MTRU HANDLING RH GENERATOR SITE OR

OR-W040 CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: stainless steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material:

Number Stored: 36
Number Projected: 824

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.6 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 3.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 141.8 | | |
| Packaging Material, Plastic | 39.4 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.6 | 0.6 m3 |
| End of 1993: | 6.9 | 6.9 m3 |
| 1994: | 6.3 | 6.3 m3/yr |
| 1995: | 6.3 | 6.3 m3/yr |
| 1996: | 6.3 | 6.3 m3/yr |
| 1997: | 6.3 | 6.3 m3/yr |
| 1998-2002: | 6.3 | 6.3 m3/yr |
| 2003-2022: | 6.3 | 6.3 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Ac227 | 1.00E-03 Curies/m3 |
| Am241 | 3.89E+00 Curies/m3 |
| Am243 | 9.99E-05 Curies/m3 |
| Bk249 | 9.99E-05 Curies/m3 |
| Cf249 | 3.38E-03 Curies/m3 |
| Cf252 | 2.52E-01 Curies/m3 |
| Cm244 | 1.70E+00 Curies/m3 |
| Co60 | 3.50E+00 Curies/m3 |
| Cs137 | 3.70E+02 Curies/m3 |
| Pu238 | 1.19E+01 Curies/m3 |
| Pu239 | 4.47E+00 Curies/m3 |
| Pu241 | 4.32E+00 Curies/m3 |
| Ra223 | 1.00E-03 Curies/m3 |
| Sr90 | 4.26E+02 Curies/m3 |
| Th23 | 5.00E-04 Curies/m3 |
| U233 | 3.95E-01 Curies/m3 |
| U235 | 1.00E-04 Curies/m3 |
| U238 | 9.17E-05 Curies/m3 |

Comments

5490 Uncategorized Heterogeneous Debris information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

OR-W040 - 7

OR - 7

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE STREAM

MWIR ID OR-W042

WIPP ID OR-W042

Local ID 2041

MATRIX CODE

SITE FINAL FORM IDC

Waste Matrix Code Group

Site Matrix Description

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE OR

Stream Name Inactive Storage Tank Contents - MTRU Sludge

DESCRIPTION

3129 Uncategorized Inorganic Sludges

Solidified Inorganics

The waste stream is comprised of MTRU sludge which has settled and separated from wastewater that has been stored in large underground storage tanks. The waste is a product of past operations at ORNL involving various nuclear research and radiolotope fabrication processes and is currently undergoing RI/FS as part of a CERCLA program involving these tanks and contents. This waste is under the responsibility of DOE EM-40 and as such are not technically a RCRA mixed waste. However, since the waste has been reported in the ORR LDR FFCA, it is included in the MMR.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

FINAL WASTE FORM DESCRIPTORS:

TRUCON CODE

Defense TRU Waste

Non-Defense TRU Waste

Commercial TRU Waste

Unknown

Mixed TRU

Non-Mixed TRU

Suspect Mixed TRU

Unknown

Research and Devel. Waste

Operations Waste

Residues

Decon and Decommissioning

Environmental Restoration

From Treatment of Waste

Maintenance

TSCA

Asbestos

PCBs

Other

N/A

Unknown

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ OR

OR-W042

CONTAINER: Single shell tank

Type/Size:

Container Mat: variable
Int. Vol/Ctnr: m3

Liner Type:
Liner Material:

Number Stored: 11
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 793.3 | 346.2 | 1057.7 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 110.0 | 110.0 m3 |
| End of 1993: | 110.0 | 110.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1998: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006A
D007A
D008A
D009A

Comments

External volume of the single shell tank is variable.

Isotopic composition is unknown for this waste stream.

3129 Uncategorized Inorganic Sludge Information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPJP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE STREAM

MVIR ID

OR-W044

WIPP ID

OR-W044

Local ID

2043

5400

2043

MATRIX CODE

SITE FINAL FORM IDC

WASTE TYPE

MTRU

HANDLING

CH

GENERATOR SITE

OR

STREAM NAME

CH TRU Heterogeneous Debris

DESCRIPTION

5490 Uncategorized Heterogeneous Debris

Waste Matrix Code Group

Heterogeneous

Site Matrix Description

This waste stream consists of CH TRU waste which is classified as contaminated equipment, decontamination debris or dry solids. The physical form is solid. These wastes have been examined by WEA and do not contain free or containerized liquids. This waste is categorized as heterogeneous debris (matrix code 5400).

NO MIGRATION VARIANCE PETITION ASSIGNMENT OR 125A, 125B

TRUCON CODE OR 125A, 125B

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste

X

Non-Defense TRU Waste

Commercial TRU Waste

Unknown

Mixed TRU

X

Non-Mixed TRU

Suspect Mixed TRU

Unknown

Research and Devel. Waste

X

Operations Waste

Residues

Decon and Decommissioning

Environmental Restoration

From Treatment of Waste

Maintenance

X

TSCA

Asbestos

PCBs

Other

N/A

Unknown

X

OR-W044 - 1

OR - 10

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE OR

OR-W044

CONTAINER: Box

Type/Size:

Container Matl: metal

Int. Vol/Ctnr: 2.37 m3

Liner Type:

Liner Material:

Number Stored: 50

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 3.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 118.5 | 118.5 m3 |
| End of 1993: | 118.5 | 118.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

Comments

5490 Uncategorized Heterogeneous Debris Information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPIP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.61E+00 Curies/m3 |
| Am243 | 9.81E-02 Curies/m3 |
| Bk249 | 2.28E+01 Curies/m3 |
| Cf249 | 5.03E-03 Curies/m3 |
| Cf252 | 1.38E-02 Curies/m3 |
| Cm244 | 3.47E+00 Curies/m3 |
| Cm248 | 5.07E-03 Curies/m3 |
| Co60 | 1.83E-06 Curies/m3 |
| Cs137 | 2.01E-02 Curies/m3 |
| Es254 | 0.00E+00 Curies/m3 |
| Fe59 | 4.00E+00 Curies/m3 |
| Gd153 | 0.00E+00 Curies/m3 |
| Np237 | 3.96E-02 Curies/m3 |
| Pm147 | 7.73E-01 Curies/m3 |
| Pu238 | 6.82E+01 Curies/m3 |
| Pu239 | 6.23E-01 Curies/m3 |
| Pu240 | 1.34E+01 Curies/m3 |
| Pu241 | 2.02E+03 Curies/m3 |
| Pu242 | 4.89E-03 Curies/m3 |
| Ra226 | 9.27E-01 Curies/m3 |
| Sr90 | 1.60E-02 Curies/m3 |
| Tc99 | 6.84E-01 Curies/m3 |
| Th232 | 5.40E-05 Curies/m3 |
| U232 | 2.04E-02 Curies/m3 |
| U233 | 1.69E-01 Curies/m3 |
| U234 | 1.28E-04 Curies/m3 |
| U235 | 5.90E-05 Curies/m3 |
| U236 | 4.35E-05 Curies/m3 |
| U238 | 5.35E-04 Curies/m3 |
| Y90 | 3.40E-06 Curies/m3 |

OR-W044 - 2

OR - 11

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ OR

OR-W044 CONTAINER: Box
Type/Size:

Container Mat: wood
Int. Vol/Ctnr: 11.8 m³

Liner Type:
Liner Material:

Number Stored: 6
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 3.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

Comments

S490 Uncategorized Heterogeneous Debris information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 70.8 | 70.8 m ³ |
| End of 1993: | 70.8 | 70.8 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 2.61E+00 Curies/m ³ |
| Am243 | 9.81E-02 Curies/m ³ |
| Bk249 | 2.28E+01 Curies/m ³ |
| Cf249 | 5.03E-03 Curies/m ³ |
| Cf252 | 1.38E-02 Curies/m ³ |
| Cm244 | 3.47E+00 Curies/m ³ |
| Cm248 | 5.07E-03 Curies/m ³ |
| Co60 | 1.83E-06 Curies/m ³ |
| Cs137 | 2.01E-02 Curies/m ³ |
| Es254 | 0.00E+00 Curies/m ³ |
| Fe59 | 4.00E+00 Curies/m ³ |
| Gd153 | 0.00E+00 Curies/m ³ |
| Np237 | 3.96E-02 Curies/m ³ |
| Pm147 | 7.73E-01 Curies/m ³ |
| Pu238 | 6.82E+01 Curies/m ³ |
| Pu239 | 6.23E-01 Curies/m ³ |
| Pu240 | 1.34E+01 Curies/m ³ |
| Pu241 | 2.02E+03 Curies/m ³ |
| Pu242 | 4.89E-03 Curies/m ³ |
| Ra226 | 9.27E-01 Curies/m ³ |
| Sr90 | 1.60E-02 Curies/m ³ |
| Tc99 | 6.84E-01 Curies/m ³ |
| Th232 | 5.40E-05 Curies/m ³ |
| U232 | 2.04E-02 Curies/m ³ |
| U233 | 1.69E-01 Curies/m ³ |
| U234 | 1.28E-04 Curies/m ³ |
| U235 | 5.90E-05 Curies/m ³ |
| U236 | 4.35E-05 Curies/m ³ |
| U238 | 5.35E-04 Curies/m ³ |
| Y90 | 3.40E-06 Curies/m ³ |

OR-W044 - 3

OR - 12

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE OR

OR-W044

CONTAINER: Drum

Type/Size: 30-gallon

Container Mat: BI

Int. Vol/Ctnr: 0.11 m3

Liner Type:

Liner Material:

Number Stored: 10

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 3.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.1 | 1.1 m3 |
| End of 1993: | 1.1 | 1.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1998: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.61E+00 Curies/m3 |
| Am243 | 9.81E-02 Curies/m3 |
| Bk249 | 2.28E+01 Curies/m3 |
| Cf249 | 5.03E-03 Curies/m3 |
| Cf252 | 1.38E-02 Curies/m3 |
| Cm244 | 3.47E+00 Curies/m3 |
| Cm248 | 5.07E-03 Curies/m3 |
| Co60 | 1.83E-06 Curies/m3 |
| Cs137 | 2.01E-02 Curies/m3 |
| Es254 | 0.00E+00 Curies/m3 |
| Fe59 | 4.00E+00 Curies/m3 |
| Gd153 | 0.00E+00 Curies/m3 |
| Np237 | 3.96E-02 Curies/m3 |
| Pm147 | 7.73E-01 Curies/m3 |
| Pu238 | 6.82E+01 Curies/m3 |
| Pu239 | 6.23E-01 Curies/m3 |
| Pu240 | 1.34E+01 Curies/m3 |
| Pu241 | 2.02E+03 Curies/m3 |
| Pu242 | 4.89E-03 Curies/m3 |
| Ra226 | 9.27E-01 Curies/m3 |
| Sr90 | 1.60E-02 Curies/m3 |
| Tc99 | 6.84E-01 Curies/m3 |
| Th232 | 5.40E-05 Curies/m3 |
| U232 | 2.04E-02 Curies/m3 |
| U233 | 1.69E-01 Curies/m3 |
| U234 | 1.28E-04 Curies/m3 |
| U235 | 5.90E-05 Curies/m3 |
| U236 | 4.35E-05 Curies/m3 |
| U238 | 5.35E-04 Curies/m3 |
| Y90 | 3.40E-06 Curies/m3 |

Comments

5490 Uncategorized Heterogeneous Debris Information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPJP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ OR

OR-W044 CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: BI
Int. Vol/Ctnr: 0.21 m3

Liner Type:
Liner Material:

Number Stored: 164
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 3.0 |
| Packaging Materials, Steel | 141.8 | 0.0 | 0.0 |
| Packaging Material, Plastic | 39.4 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 34.4 | 34.4 m3 |
| End of 1993: | 34.4 | 34.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1998: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

Comments

5490 Uncategorized Heterogeneous Debris information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPJP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.61E+00 Curies/m3 |
| Am243 | 9.81E-02 Curies/m3 |
| Bk249 | 2.28E+01 Curies/m3 |
| Cf249 | 5.03E-03 Curies/m3 |
| Cf252 | 1.38E-02 Curies/m3 |
| Cm244 | 3.47E+00 Curies/m3 |
| Cm248 | 5.07E-03 Curies/m3 |
| Co60 | 1.83E-06 Curies/m3 |
| Cs137 | 2.01E-02 Curies/m3 |
| Es254 | 0.00E+00 Curies/m3 |
| Fe59 | 4.00E+00 Curies/m3 |
| Gd153 | 0.00E+00 Curies/m3 |
| Np237 | 3.96E-02 Curies/m3 |
| Pm147 | 7.73E-01 Curies/m3 |
| Pu238 | 6.82E+01 Curies/m3 |
| Pu239 | 6.23E-01 Curies/m3 |
| Pu240 | 1.34E+01 Curies/m3 |
| Pu241 | 2.02E+03 Curies/m3 |
| Pu242 | 4.89E-03 Curies/m3 |
| Ra226 | 9.27E-01 Curies/m3 |
| Sr90 | 1.60E-02 Curies/m3 |
| Tc99 | 6.84E-01 Curies/m3 |
| Th232 | 5.40E-05 Curies/m3 |
| U232 | 2.04E-02 Curies/m3 |
| U233 | 1.69E-01 Curies/m3 |
| U234 | 1.28E-04 Curies/m3 |
| U235 | 5.90E-05 Curies/m3 |
| U236 | 4.35E-05 Curies/m3 |
| U238 | 5.35E-04 Curies/m3 |
| Y90 | 3.40E-06 Curies/m3 |

OR-W044 - 5

OR - 14

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ OR

OR-W044 CONTAINER: Drum
Type/Size: 30-gallon

Container Matl: stainless steel
Int. Vol/Ctnr: 0.11 m3
Liner Type:
Liner Material:
Number Stored: 70
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 3.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 7.7 | 7.7 m3 |
| End of 1993: | 7.7 | 7.7 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1998: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|-----------|
| Am241 | Curies/m3 |
| Am243 | Curies/m3 |
| Bk249 | Curies/m3 |
| Cf249 | Curies/m3 |
| Cf252 | Curies/m3 |
| Cm244 | Curies/m3 |
| Cm246 | Curies/m3 |
| Co60 | Curies/m3 |
| Cs137 | Curies/m3 |
| Es254 | Curies/m3 |
| Fe59 | Curies/m3 |
| Gd153 | Curies/m3 |
| Np237 | Curies/m3 |
| Pm147 | Curies/m3 |
| Pu238 | Curies/m3 |
| Pu239 | Curies/m3 |
| Pu240 | Curies/m3 |
| Pu241 | Curies/m3 |
| Pu242 | Curies/m3 |
| Ra226 | Curies/m3 |
| Sr90 | Curies/m3 |
| Tc99 | Curies/m3 |
| Th232 | Curies/m3 |
| U232 | Curies/m3 |
| U233 | Curies/m3 |
| U234 | Curies/m3 |
| U235 | Curies/m3 |
| U236 | Curies/m3 |
| U238 | Curies/m3 |
| Y90 | Curies/m3 |

Comments

5490 Uncategorized Heterogeneous Debris Information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPIP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE MTRU HANDLING CH GENERATOR SITE OR

OR-W044

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: stainless steel
Int. Vol/Ctnr: 0.208m³

Liner Type:
Liner Material:
Number Stored: 1370
Number Projected: 1268

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 3.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 141.8 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 275.8 | 275.8 m ³ |
| End of 1993: | 284.9 | 284.9 m ³ |
| 1994: | 9.1 | 9.1 m ³ /yr |
| 1995: | 9.1 | 9.1 m ³ /yr |
| 1996: | 9.1 | 9.1 m ³ /yr |
| 1997: | 9.1 | 9.1 m ³ /yr |
| 1998-2002: | 9.1 | 9.1 m ³ /yr |
| 2003-2022: | 9.1 | 9.1 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

Comments

5490 Uncategorized Heterogeneous Debris information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPJP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Am241 | 2.61E+00 Curies/m ³ |
| Am243 | 9.81E-02 Curies/m ³ |
| Bk249 | 2.28E+01 Curies/m ³ |
| Cf249 | 5.03E-03 Curies/m ³ |
| Cf252 | 1.38E-02 Curies/m ³ |
| Cm244 | 3.47E+00 Curies/m ³ |
| Cm248 | 5.07E-03 Curies/m ³ |
| Co60 | 1.83E-06 Curies/m ³ |
| Cs137 | 2.01E-02 Curies/m ³ |
| Es254 | 0.00E+00 Curies/m ³ |
| Fe59 | 4.00E+00 Curies/m ³ |
| Gd153 | 0.00E+00 Curies/m ³ |
| Np237 | 3.96E-02 Curies/m ³ |
| Pm147 | 7.73E-01 Curies/m ³ |
| Pu238 | 6.82E+01 Curies/m ³ |
| Pu239 | 6.23E-01 Curies/m ³ |
| Pu240 | 1.34E+01 Curies/m ³ |
| Pu241 | 2.02E+03 Curies/m ³ |
| Pu242 | 4.89E-03 Curies/m ³ |
| Ra226 | 9.27E-01 Curies/m ³ |
| Sr90 | 1.60E-02 Curies/m ³ |
| Tc99 | 6.84E-01 Curies/m ³ |
| Th232 | 5.40E-05 Curies/m ³ |
| U232 | 2.04E-02 Curies/m ³ |
| U233 | 1.69E-01 Curies/m ³ |
| U234 | 1.28E-04 Curies/m ³ |
| U235 | 5.90E-05 Curies/m ³ |
| U236 | 4.35E-05 Curies/m ³ |
| U238 | 5.35E-04 Curies/m ³ |
| Y90 | 3.40E-06 Curies/m ³ |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE STREAM

| | |
|----------|---------|
| MWIR ID | OR-W045 |
| WIPP ID | OR-W045 |
| Local ID | 2044 |
| | 8000 |
| | 2044 |

MATRIX CODE

SITE FINAL FORM IDC

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE OR

STREAM NAME CH TRU Uncategorized

DESCRIPTION 5490 Uncategorized Heterogeneous Debris

Waste Matrix Code Group Heterogeneous

Site Matrix Description

This waste stream consists of CH TRU waste which is not classified. The physical form is either solid, liquid, mixed (both solid and liquid), or unknown. This waste is categorized as unknown (matrix code 8000).

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE MTRU HANDLING CH GENERATOR SITE OR

OR-W045 CONTAINER: Box Type/Size: Number Stored: 1 Number Projected: 0

Container Matl: metal Liner Type: Liner Material: Int. Vol/Ctnr: 2.37 m3

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 3.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2.4 | 2.4 m3 |
| End of 1993: | 2.4 | 2.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 6.10E+00 Curies/m3 |
| Pu239 | 4.26E+00 Curies/m3 |
| Pu240 | 6.58E+00 Curies/m3 |
| Pu241 | 1.24E+02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

Comments

S490 Uncategorized Heterogeneous Debris information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPJP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ OR

OR-W045

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: stainless steel
Int. Vol/Ctnr: 0.208 m³

Liner Type: ☐
Liner Material: ☐

Number Stored: 6
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 3.0 |
| Packaging Materials, Steel | 141.8 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 1.3 | 1.3 m ³ |
| End of 1993: | 1.3 | 1.3 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

Comments

5490 Uncategorized Heterogeneous Debris information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPJP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

OR-W045 - 3

OR - 19

2/28/95

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu238 | 6.10E+00 Curies/m ³ |
| Pu239 | 4.26E+00 Curies/m ³ |
| Pu240 | 6.58E+00 Curies/m ³ |
| Pu241 | 1.24E+02 Curies/m ³ |

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

NAME OR

| | | | | | |
|---------------------|--|---|--|----------------|--|
| WASTE TYPE | | HANDLING | | GENERATOR SITE | |
| OR-W046 | | RH | | OR | |
| WASTE STREAM | | STREAM NAME | | | |
| WIPP ID | | Liquid Low Level Waste Storage Tanks - Sludge | | | |
| Local ID | | 3129 Uncategorized Inorganic Sludges, 3229 Organic Solids | | | |
| MATRIX CODE | | DESCRIPTION | | | |
| SITE FINAL FORM IDC | | Solidified Inorganics | | | |

Waste Matrix Code Group
Site Matrix Description

This waste stream is comprised of LLLW waste that has been concentrated by evaporation and subsequently stored in large underground storage tanks. The waste is generated as relative dilute low level waste in various nuclear research and radioisotope fabrication processes. These streams are collected centrally and the volumes reduced in an evaporation facility. After the waste has been stored, it separates into phases. The resulting solids (sludge phase) is fairly homogeneous chemically and radiochemically. Since the sludge is a product of solids concentration, it has been classified as a TRU waste.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|---|
| Defense TRU Waste | X |
| Non-Defense TRU Waste | |
| Commercial TRU Waste | |
| Unknown | |

| | |
|-------------------|--|
| Mixed TRU | |
| Non-Mixed TRU | |
| Suspect Mixed TRU | |
| Unknown | |

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

| | |
|---------------------------|---|
| Research and Devel. Waste | X |
| Operations Waste | X |
| Residues | |
| Decon and Decommissioning | X |
| Environmental Restoration | |
| From Treatment of Waste | X |
| Maintenance | |

| | | | | |
|---|---|--|--|--|
| X | X | | | |
|---|---|--|--|--|

| | |
|----------|---|
| TSCA | |
| Asbestos | |
| PCBs | |
| Other | |
| N/A | |
| Unknown | X |

| | | | | |
|--|--|--|--|---|
| | | | | X |
|--|--|--|--|---|

TRUCON CODE

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ RH ☐ GENERATOR SITE ☐ OR

OR-W046 CONTAINER: Tanks
Type/Size: Single Shell Tank

Container Mat: Steel
Int. Vol/Ctnr: 189 m3

Liner Type:
Liner Material:
Number Stored: 12
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulose | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 793.3 | 346.2 | 1057.7 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 605.0 | 605.0 m3 |
| End of 1993: | 605.0 | 605.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006A
D007A
D008A
D009A

Comments

3129 Uncategorized Inorganic Sludges and 3229 Organic Solids Information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPIP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

Isotopic composition is unknown for this waste stream.

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ RH ☐ GENERATOR SITE ☐ OR

OR-W046 CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: stainless steel
Int. Vol/Ctnr: 0.208 m3
Liner Type:
Liner Material:

Number Stored: 29
Number Projected: 836

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 793.3 | 346.2 | 1057.7 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 141.8 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 6.0 | 6.0 m3 |
| 1994: | 6.0 | 6.0 m3/yr |
| 1995: | 6.0 | 6.0 m3/yr |
| 1996: | 6.0 | 6.0 m3/yr |
| 1997: | 6.0 | 6.0 m3/yr |
| 1998-2002: | 6.0 | 6.0 m3/yr |
| 2003-2022: | 6.0 | 6.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D006A
D007A
D008A
D009A

Comments

3129 Uncategorized Inorganic Sludges and 3229 Organic Solids information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPJP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

Isotopic composition is unknown for this waste stream.

OR-W046 - 3

OR - 22

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

NAME OR

| | | | | | | | |
|---|---------|--------------------------|-------------------------------------|-------------|----|----------------|--|
| WASTE STREAM | | WASTE TYPE | | HANDLING | | GENERATOR SITE | |
| MWIR ID | OR-W047 | CH TRU | Heterogeneous Debris (with liquids) | CH | OR | | |
| WIPP ID | OR-W047 | | | | | | |
| Local ID | 2046 | | | | | | |
| MATRIX CODE | 5400 | | | | | | |
| SITE FINAL FORM IDC | 2046 | | | | | | |
| Waste Matrix Code Group | | Heterogeneous | | | | | |
| Site Matrix Description | | 5400 Heterogeneous Waste | | | | | |
| <p>This waste stream consists of CH TRU waste which is classified as contamination equipment, decontaminated debris or dry solids. The physical form is solid. These wastes have been examined by WEAFF and found to contain free and/or containerized liquids. This waste is categorized as heterogeneous debris (matrix code 5400).</p> | | | | | | | |
| NO MIGRATION VARIANCE PETITION ASSIGNMENT | | | | TRUCON CODE | | | |
| | | | | | | | |

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input checked="" type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ OR

OR-W047

CONTAINER: Drum

Type/Size: 30-gallon

Container Matl: BI

Int. Vol/Ctnr: 0.11 m3

Liner Type:

Liner Material:

Number Stored: 5

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 3.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.6 | 0.6 m3 |
| End of 1993: | 0.6 | 0.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 2.33E-01 Curies/m3 |
| Pu240 | 3.81E-01 Curies/m3 |
| Pu241 | 3.08E+02 Curies/m3 |
| Pu242 | 1.43E-02 Curies/m3 |
| Ra226 | 5.85E-03 Curies/m3 |
| Th230 | 1.20E-05 Curies/m3 |
| Th232 | 1.50E-05 Curies/m3 |
| U232 | 4.71E-04 Curies/m3 |
| U233 | 1.91E-01 Curies/m3 |
| U235 | 3.80E-05 Curies/m3 |
| U238 | 5.00E-07 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

Comments

5400 Heterogeneous Debris information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPIP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME OR

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ OR

OR-W047

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: BI
Int. Vol/Ctnr: 0.208 m3

Liner Type: ☐
Liner Material: ☐

Number Stored: 96
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 3.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 20.0 | 20.0 m3 |
| End of 1993: | 20.0 | 20.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 2.33E-01 Curies/m3 |
| Pu240 | 3.81E-01 Curies/m3 |
| Pu241 | 3.08E+02 Curies/m3 |
| Pu242 | 1.43E-02 Curies/m3 |
| Ra226 | 5.85E-03 Curies/m3 |
| Th230 | 1.20E-05 Curies/m3 |
| Th232 | 1.50E-05 Curies/m3 |
| U232 | 4.71E-04 Curies/m3 |
| U233 | 1.91E-01 Curies/m3 |
| U235 | 3.80E-05 Curies/m3 |
| U238 | 5.00E-07 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

Comments

S400 Heterogeneous Debris information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPJP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

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OR - 25

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

| | | | | | | |
|--------------|------------|------|----------|----|----------------|----|
| SITE NAME OR | WASTE TYPE | MTRU | HANDLING | CH | GENERATOR SITE | OR |
| | | | | | | |

| | | | | | | | | |
|---------|------------|-----------|----------------|---------------------|-----------------|--|-------------------|----|
| OR-W047 | CONTAINER: | Drum | Container Mat: | stainless steel | Liner Type: | | Number Stored: | 22 |
| | Type/Size: | 30-gallon | Int. Vol/Ctnr: | 0.11 m ³ | Liner Material: | | Number Projected: | 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulosics | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 3.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 2.4 | 2.4 m ³ |
| End of 1993: | 2.4 | 2.4 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu239 | 2.33E-01 Curies/m ³ |
| Pu240 | 3.81E-01 Curies/m ³ |
| Pu241 | 3.08E+02 Curies/m ³ |
| Pu242 | 1.43E-02 Curies/m ³ |
| Ra226 | 5.85E-03 Curies/m ³ |
| Th230 | 1.20E-05 Curies/m ³ |
| Th232 | 1.50E-05 Curies/m ³ |
| U232 | 4.71E-04 Curies/m ³ |
| U233 | 1.91E-01 Curies/m ³ |
| U235 | 3.80E-05 Curies/m ³ |
| U238 | 5.00E-07 Curies/m ³ |

Comments

S400 Heterogeneous Debris information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a GAPJP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

WASTE STREAM PROFILE FOR THE WIPP TRU

E NAME OR

STE BASELINE INVENTORY REPORT

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ OR

OR-W047

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: stainless steel

Int. Vol/Ctnr: 0.208/m3

Liner Type:

Liner Material:

Number Stored: 620

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

Material Parameters

| | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.2 | 0.0 | 1716.4 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 1.6 |
| Other Metals | 0.0 | 0.0 | 21.3 |
| Other Inorganic Materials | 2.4 | 0.0 | 24.0 |
| Cellulose | 80.9 | 0.0 | 184.8 |
| Rubber | 7.4 | 0.0 | 17.9 |
| Plastics | 64.9 | 0.0 | 149.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 3.0 |
| Packaging Materials, Steel | 141.8 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 129.0 | 129.0 m3 |
| End of 1993: | 129.0 | 129.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | Curies/m3 |
|---------|----------|-----------|
| Pu239 | 2.33E-01 | Curies/m3 |
| Pu240 | 3.81E-01 | Curies/m3 |
| Pu241 | 3.08E+02 | Curies/m3 |
| Pu242 | 1.43E-02 | Curies/m3 |
| Ra226 | 5.85E-03 | Curies/m3 |
| Th230 | 1.20E-05 | Curies/m3 |
| Th232 | 1.50E-05 | Curies/m3 |
| U232 | 4.71E-04 | Curies/m3 |
| U233 | 1.91E-01 | Curies/m3 |
| U235 | 3.80E-05 | Curies/m3 |
| U238 | 5.00E-07 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
D009A
D011A

Comments

5400 Heterogeneous Debris information and data available has not been compiled and reduced to provide a detailed breakdown for the material parameters for each waste stream and waste matrix code. ORNL is implementing a QAPIP for TRU waste characterization in which utilization of process knowledge data will be used to produce more detailed information on material parameters per waste stream. Data submitted was taken from the BIR database.

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PADUCAH GASEOUS DIFFUSION PLANT (PA) WASTE STREAM PROFILES

The following modifications were made by the WTWBIR team in developing the PA waste stream profiles:

- PA submitted a new waste stream with the WTWBIR ID PA-015A. In order to be consistent with the way ID's are assigned this was changed to PA-W016.
- The volumes for the year 1993 were changed from an annual rate of generation (m^3/year) to a cumulative value (m^3).

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME PA

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE PA

| | | | |
|---------------------|------------------|-------------|--|
| WASTE STREAM | MWIR ID PA-W014 | STREAM NAME | Transuranic Waste Liquid |
| | WIPP ID PA-W014 | | |
| | Local ID PA-W014 | | |
| MATRIX CODE | 1220 | DESCRIPTION | This stream is liquid generated from the shutdown of the C-400 neptunium/technetium recovery system. |
| SITE FINAL FORM IDC | | | |

Waste Matrix Code Group
Site Matrix Description Aqueous Slurries - Basic

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

TSCA
Asbestos
PCBs
Other
N/A
Unknown

X

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME PA

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE PA

PA-W014

CONTAINER: Drum

Type/Size: 55 gal in overpack

Container Mat: Steel

Int. Vol/Ctnr: 0.3m3

Liner Type:

Liner Material:

Number Stored: 1

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORDED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.3 | 0.8 m3 |
| End of 1993: | 0.3 | 0.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity

TYPICAL EPA CODES APPLICABLE

D002B

Comments

Waste material parameters not available.
Isotopic composition not available.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME PA

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ PA

| | | | | |
|---|----------|---------|-------------|-----------|
| WASTE STREAM | MWIR ID | PA-W015 | STREAM NAME | TRU Solid |
| | WIPP ID | PA-W015 | | |
| | Local ID | PA-W015 | | |
| MATRIX CODE | | 3129 | | |
| SITE FINAL FORM IDC | | | | |
| DESCRIPTION This stream includes solid waste generated from the shutdown of the Neptunium/Technetium recovery system. Waste stream consists of spill cleanup and residue. Past analytical data indicates the presence of chromium in the stream. | | | | |
| Waste Matrix Code Group Site Matrix Description Solidified Inorganics Other Inorganic Sludges | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME PA

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE PA

PA-W015

CONTAINER: Drum

Type/Size: 55 gal in overpacks

Container Mat: Steel

Int. Vol/Ctnr: 0.3 m3

Liner Type:

Liner Material:

Number Stored: 4

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.2 | 1.2 m3 |
| End of 1993: | 1.2 | 1.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity

TYPICAL EPA CODES APPLICABLE

D007A

Comments

Waste material parameters not available.
 Paducah personnel reported the following ranges for several isotopes in this waste stream:
 Tc99 40-950 m Ci/kg
 Np237 6-14 m Ci/kg
 Pu239 18-91 m Ci/kg
 Th230 .01-62 m Ci/kg
 U (enr) 900-2400 m Ci/kg

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME PA

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ PA

| | | | | |
|---------------------|----------|----------|-------------|--|
| WASTE STREAM | MWIR ID | PA-W015A | STREAM NAME | TRU and Technetium Waste - Liquid |
| | WIPP ID | PA-W015A | | |
| | Local ID | PA-W015A | | |
| MATRIX CODE | | 1190 | DESCRIPTION | This stream includes waste generated from the shutdown of the neptunium/technetium recovery system. Post analytical data indicates the presence of chromium in the stream. |
| SITE FINAL FORM IDC | | | | |

Waste Matrix Code Group Solidified Inorganics

Site Matrix Description Unknown solids. Other waste waters.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|-------------------------------------|--|--|--|
| <input checked="" type="checkbox"/> | | | |
|-------------------------------------|--|--|--|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|-------------------------------------|--|--|--|
| <input checked="" type="checkbox"/> | | | |
|-------------------------------------|--|--|--|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|-------------------------------------|--|--|--|--|--|--|
| <input checked="" type="checkbox"/> | | | | | | |
|-------------------------------------|--|--|--|--|--|--|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--|--|--|-------------------------------------|--|
| | | | <input checked="" type="checkbox"/> | |
|--|--|--|-------------------------------------|--|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME PA

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ PA

PA-W015A

CONTAINER: ☐ Drum
Type/Size: 55-gallon in overpacks

Container Mat: steel
Int. Vol/Ctnr: 0.3 m³

Liner Type: ☐
Liner Material: ☐

Number Stored: ☐ 2
Number Projected: ☐ 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 0.6 | 1.5 m ³ |
| End of 1993: | 0.6 | 1.5 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|-----------------------|
| | Curies/m ³ |
| | Curies/m ³ |
| | Curies/m ³ |
| | Curies/m ³ |
| | Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

Comments

Activities for Th230 and U are not available.
Ranges of activities reported by Paducah for isotopes in this waste stream:
Tc99 4500-5400 m Ci/kg
Np237 28-90 m Ci/kg
Pu239 108-325 m Ci/kg

PANTEX (PX) WASTE STREAM PROFILES

The following modifications were made by the WTWBIR team in developing the PX waste stream profiles:

- Final Waste Form Groups were not provided by PX. In order to permit roll-ups of the data, the WTWBIR team assigned Final Waste Form Groups based on the descriptions and parameters provided by PX.
- The drum volume listed on page 1 of the waste stream form was corrected to 0.208 m³.
- The number of containers was changed to three to match the volume for the one PX waste stream.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME PX

WASTE TYPE ☒ TRU HANDLING ☒ CH GENERATOR SITE ☒ PX

| | | | |
|---|---------|--|--|
| <u>WASTE STREAM</u> | | <u>STREAM NAME</u> Pantex | |
| MWIR ID | PX-T001 | | |
| WIPP ID | 48 | | |
| Local ID | 5330 | | |
| <u>MATRIX CODE</u> | | <u>DESCRIPTION</u> Weapons dismantlement support material. | |
| <u>SITE FINAL FORM IDC</u> | | | |
| Waste Matrix Code Group Heterogeneous | | | |
| Site Matrix Description This material is contaminated PPE and tools generated during weapons dismantlement. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|--------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input checked="" type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME PX

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE PX

PX-T001

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Metal
Int. Vol/Ctnr: 0.208 m³

Liner Type: bag
Liner Material: 6 ml plastic

Number Stored: 3
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 87.0 | 78.4 | 95.8 |
| Cellulose | 0.0 | 0.0 | 0.0 |
| Rubber | 11.3 | 10.2 | 12.4 |
| Plastics | 11.3 | 10.2 | 12.4 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 0.0 | 0.0 m ³ |
| End of 1993: | 0.6 | 0.6 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu239 | 7.64E+00 Curies/m ³ |

ROCKY FLATS PLANT (RF) WASTE STREAM PROFILE METHODOLOGY

The approach used and the assumptions made in preparing the RF waste stream profiles are as follows:

- End of 1992 and end of 1993 inventory volumes for TRU-mixed and mixed residues were taken from the Interim Mixed Waste Inventory Report (IMWIR) and the Mixed Waste Inventory Report (MWIR), respectively.
- Projection volumes were taken from the Comprehensive Waste Management Plan (CWMP) with the exception of Solid Stabilization (formerly Residue Elimination). The program projection available for Solid Stabilization at the time the CWMP was being drafted was a "not to exceed" volume. The volume and breakdown of final form waste streams used in preparing the WTWBIR was an updated, projected volume taken from the Conceptual Design Report for Residue Elimination at Rocky Flats, RES-005-001, May 1994.
- The planned treatment for waste streams requiring treatment to meet WIPP WAC and TRAMPAC requirements are taken from the Draft Site Treatment Plan (DSTP) and the Treatment System Definition Report (TSDR) published by the Waste Compliance Programs.
- In the case where the waste stream or some portion of the waste stream requires treatment to change to the final waste form, the volume of waste resulting from the treatment of the original waste stream is included in the final waste form volume of the resulting waste stream. For example, the volume of waste resulting from treatment of Incinerator Ash is included in the final waste form volumes of the resulting waste stream, Solidified Process Solids.
- The following expansion factors were used to determine final waste form volumes resulting from treatment: immobilization of ash, 2.11; immobilization of sludges, 2.21; and all other immobilization treatment, 2.16. These factors were derived from the Technology Evaluation Framework (TEF) published by Waste Compliance Programs. The specific immobilization technology assumed for this purpose was cementation.
- Volume increases due to repackaging waste that exceed the current decay heat limit when no other treatment is required were not included. Waste Characterization Reassessment activities in 1994 resulted in the recharacterization of some waste. Significant changes are noted in the comments field of the affected waste streams.
- To remain consistent with the volumes reported in the IMWIR and the MWIR, 0.21 m³ was used as the container volume of a standard DOT-17C 55-gallon drum. The volume used for other containers was as specified on the data forms.
- Waste in boxes other than standard waste boxes (SWB) are assumed to be repackaged into SWBs, such that the waste from one 4'x4'x7' box is repacked into two SWBs. Therefore, the final waste form volumes for SWBs include the projected volume increase resulting from such repackaging activities.
- The values for the Typical Waste Material Weights for Final Waste Form data for the TRU waste streams are the same as the corresponding TRU mixed waste streams.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE SITE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | |
|----------------------------|---------|--|--|
| WASTE STREAM | | STREAM NAME | |
| MWIR ID | RF-M001 | Solidified Process Solids/TRM | |
| WIPP ID | RF-806 | Solidified Homogeneous Solids | |
| Local ID | 3150 | | |
| MATRIX CODE | 806 | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Solidified Inorganics | |
| Site Matrix Description | | <p>This waste stream represents the solidified final form of all particulate and sludge type materials. Particulates and sludge type materials are immobilized with Portland cement. The cemented wastes are cast into 1-gallon molds and allowed to cure prior to packaging. This is the final waste form for Firebrick, Pulverized or Fines/TRM (RF-W036), Incinerator Ash/TRM (RF-W040), Particulate Sludge/TRM (RF-W068), and Sand, Slag, and Crucible/TRM (RF-W059). IDC 806 - All inorganic particulate and inorganic sludge waste must be immobilized by processing into a solid and identified as IDC 806.</p> | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ RF 114

TRUCON CODE ☐ RF 114

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|--------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input checked="" type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-M001

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: metal
Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid
Liner Material: HDPE

Number Stored: 346
Number Projected: 13286

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 68.3 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 489.0 | 376.2 | 635.7 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 208.9 | 160.7 | 271.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------|
| End of 1992: | 0.0 | 82.7 m3 |
| End of 1993: | 0.0 | 72.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 47.7 | 139.5 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity

TYPICAL EPA CODES APPLICABLE

D002
D003
D004
D005
D006
D007
D008
D009
D010
D011
D018
D019
D035
D040
F001
F002

Comments

Final waste form volumes include treated waste from Firebrick, Pulverized or Fines/TRM, Incinerator Ash/TRM, Particulate Sludge/TRM and Sand, Slag and Crucible/TRM.

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.
2. The "Number Stored" field may not reflect the actual number of drums in storage at Rocky Flats, but the number of containers that would be generated if all waste streams that feed into RF-M001 were in final form.

RF-M001 - 2

RF - 2

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

F003

F005

RF-M001 - 3

RF - 3

2/28/95

SITE NAME RF

| | | | | | |
|------------|------|----------|----|----------------|----|
| WASTE TYPE | MTRU | HANDLING | CH | GENERATOR SITE | RF |
|------------|------|----------|----|----------------|----|

| <u>WASTE STREAM</u> | | <u>STREAM NAME</u> | |
|----------------------------|---------|-----------------------------------|--|
| <u>MWIR ID</u> | | Supercompacted Combustibles/TRM | |
| <u>WIPP ID</u> | RF-M002 | | |
| <u>Local ID</u> | RF-2116 | | |
| <u>MATRIX CODE</u> | 5330 | | |
| <u>SITE FINAL FORM IDC</u> | 2116 | Supercompacted combustible debris | |

Waste Matrix Code Group

Site Matrix Description

This waste consists of cloth and paper products from cleanup of gloveboxes and spills, which has been supercompacted for volume reduction.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE RF-116C

FINAL WASTE FORM DESCRIPTORS:

| Waste Type | Asbestos | PCBs | Other | N/A | Unknown |
|---------------------------|----------|------|-------|-----|---------|
| Defense TRU Waste | | | | X | |
| Non-Defense TRU Waste | | | | | |
| Commercial TRU Waste | | | | | |
| Unknown | | | | | |
| Mixed TRU | | | | | |
| Non-Mixed TRU | | | | | |
| Suspect Mixed TRU | | | | | |
| Unknown | | | | | |
| Research and Devel. Waste | | | | | |
| Operations Waste | | | | | |
| Residues | | | | | |
| Decom and Decommissioning | | | | | |
| Environmental Restoration | | | | | |
| From Treatment of Waste | | | | | X |
| Maintenance | | | | | |

The waste stream supercompacted combustibles/TRM is listed in TRUCON under RF 116C but is listed with "older" IDCs 831, 832, 833.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-M002

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: metal

Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored: 9

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 303.2 | 0.0 | 681.8 |
| Rubber | 28.8 | 0.0 | 681.8 |
| Plastics | 87.4 | 0.0 | 681.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 301.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 51.9 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 1.9 | 1.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 4.08E+00 Curies/m3 |
| Pu240 | 1.02E+00 Curies/m3 |
| Pu241 | 2.44E+01 Curies/m3 |
| Am241 | 3.46E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

F001
F002
F005

Comments

Upper limit assumes a drum can contain all cellulosics, all rubber, or all plastics - actual max is 681.8.
Lower limit assumes that a single drum can contain no cellulosics, rubber or plastics - actual min is 0.
Steel packaging materials assumes 1 overpack drum (55-gal) & 2 pucks (35-gal).
Plastic packaging material assumes 1 PVC liner, 1 P.E. liner and 1 rigid liner.

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

| | | |
|-------------------------|--|---------------------------------|
| WASTE STREAM | WMIR ID | STREAM NAME |
| | WIPP ID RF-T001 | Cemented Sludge/TRU |
| | Local ID 823 | |
| MATRIX CODE | | DESCRIPTION |
| | 3129 | Uncategorized Inorganic Sludges |
| SITE FINAL FORM IDC | 823 | |
| Waste Matrix Code Group | Solidified Inorganics | |
| Site Matrix Description | This waste consists of cemented miscellaneous sludge (IDC 823) | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
|-------------------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| | | | |
|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T001

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: metal
Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid
Liner Material: HDPE

Number Stored: 35
Number Projected: 28

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 489.0 | 376.2 | 635.2 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 208.9 | 160.7 | 271.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 51.9 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 3.2 | 3.2 m3 |
| End of 1993: | 7.4 | 7.4 m3 |
| 1994: | 0.2 | 0.2 m3/yr |
| 1995: | 0.2 | 0.2 m3/yr |
| 1996: | 0.2 | 0.2 m3/yr |
| 1997: | 0.2 | 0.2 m3/yr |
| 1998-2002: | 0.2 | 0.2 m3/yr |
| 2003-2022: | 0.2 | 0.2 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 1.32E-01 Curies/m3 |
| Pu240 | 3.02E-02 Curies/m3 |
| Pu241 | 7.20E-01 Curies/m3 |
| Am241 | 3.80E-01 Curies/m3 |

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T002

CONTAINER: metal box
Type/Size: 4x4x7

Container Matl: metal
Int. Vol/Ctnr: 3.17 m3

Liner Type:
Liner Material:

Number Stored: 0
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.1 | 0.0 | 7.2 |
| Cellulose | 64.2 | 0.0 | 481.6 |
| Rubber | 6.1 | 0.0 | 481.6 |
| Plastics | 18.5 | 0.0 | 481.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | 0.0 | 0.0 |
| Packaging Material, Plastic | 2.2 | 0.0 | 0.0 |

RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 3.2 | 0.0 m3 |
| End of 1993: | 3.2 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Assume metal box repacked into 2 SWBs.
Final waste form volumes included in final waste form volumes for SWB.
Typical isotopic composition data is not available for this container type.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

RF-T002

CONTAINER: Standard Waste Box
Type/Size:

Container Mat: metal
Int. Vol/Ctnr: 1.9m3

Liner Type:
Liner Material:

Number Stored: 2
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.1 | 0.0 | 7.2 |
| Cellulosics | 64.2 | 0.0 | 481.6 |
| Rubber | 6.1 | 0.0 | 481.6 |
| Plastics | 18.5 | 0.0 | 481.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | | |
| Packaging Material, Plastic | 2.2 | | |

RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 3.8 m3 |
| End of 1993: | 0.0 | 3.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

2 as number stored includes waste in metal box requiring repacking to SWBs.
Final waste form volumes include waste repacked from metal boxes into SWBs with 1:2 ratio.

End of 1992 1 metal box repacked into 2 SWBs
End of 1993 1 metal box repacked into 2 SWBs

Typical isotopic composition data is not available for this container type.

Footnotes

1. The number of containers stored (2) includes waste that is presently stored in 4x4x7 metal boxes that will be repackaged into SWB's.
2. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

RF-T002 - 3

RF - 10

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

| | | | | |
|---------|----------------------|------------------------|----------------------|-----------------------|
| RF-T002 | CONTAINER: Drum | Container Mat: metal | Liner Type: rigid | Number Stored: 170 |
| | Type/Size: 55-gallon | Int. Vol/Ctnr: 0.21 m3 | Liner Material: HDPE | Number Projected: 866 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.1 | 0.0 | 7.2 |
| Cellulotics | 64.2 | 0.0 | 481.6 |
| Rubber | 6.1 | 0.0 | 481.6 |
| Plastics | 18.5 | 0.0 | 481.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE - ESTIMATED

| RATES OF WASTE GENERATION | Protected | Final Form |
|---------------------------|-----------|------------|
| End of 1992: | 25.0 | 25.0 m3 |
| End of 1993: | 35.7 | 35.7 m3 |
| 1994: | 25.0 | 25.0 m3/yr |
| 1996: | 10.9 | 10.9 m3/yr |
| 1996: | 8.7 | 8.7 m3/yr |
| 1997: | 1.9 | 1.9 m3/yr |
| 1998-2002: | 2.4 | 2.4 m3/yr |
| 2003-2022: | 6.2 | 6.2 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 8.90E-01 Curies/m3 |
| Pu240 | 2.04E-01 Curies/m3 |
| Pu241 | 4.86E+00 Curies/m3 |
| Am241 | 9.77E-01 Curies/m3 |

Footnotes

1. The inventory for this waste stream contains mixed residues (24.15 m3 in 1992 and 39.38 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. The 1994 drum inventory reflects an increase of 19.32 m3 which is due to the Waste Characterization Re-assessment effort (5.66 m3 generated + 19.32 m3 transferred to non-mixed = 24.98 m3 represented for annual generation). This volume of waste was re-characterized as non-mixed TRU waste. This inventory of waste was transferred from Waste Stream RF-W012.
3. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ TRU ☒ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | |
|----------------------------|---------|--|--|
| <u>WASTE STREAM</u> | | <u>STREAM NAME</u> | |
| MWIR ID | RF-T003 | Ground Glass/TRU | |
| WIPP ID | 444 | | |
| Local ID | 3119 | | |
| MATRIX CODE | 444 | | |
| <u>SITE FINAL FORM IDC</u> | | <u>DESCRIPTION</u> | |
| Waste Matrix Code Group | | Uncategorized Inorganic Particulates | |
| Site Matrix Description | | | |
| | | Inorganic Non-metal | |
| | | This waste was recharacterized in 1994 as mixed TRU waste. See Ground Glass/TRM. (RF-W032) | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 118

TRUCON CODE RF 118

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|---|
| X |
| |
| |
| |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|---|
| X |
| |
| |
| |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|---|
| |
| |
| |
| |
| |
| X |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| |
|---|
| |
| |
| X |
| |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T003

CONTAINER: metal box
Type/Size: 4x4x7

Container Matl: metal
Int. Vol/Ctnr: 3.17 m3

Liner Type: fiberboard
Liner Material:

Number Stored: 1
Number Projected: -1

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 137.5 | 77.7 | 215.5 |
| Cellulosics | 1.1 | 1.1 | 1.1 |
| Rubber | 1.1 | 1.1 | 1.1 |
| Plastics | 19.8 | 19.8 | 19.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | | |
| Packaging Material, Plastic | 2.2 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 3.2 | 0.0 m3 |
| End of 1993: | 3.2 | 0.0 m3 |
| 1994: | -3.2 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

This waste was recharacterized as Ground Glass/TRM (RF-W032) as part of waste characterization reassessment effort.
Typical isotopic composition data is not available for this container.

Footnotes

1. The 1994 box inventory reflects a decrease of 3.17 m3 (one 4x4x7 metal box) which is due to the Waste Characterization Re-assessment effort. This volume of waste was re-characterized as TRU Mixed waste (previously considered non-mixed TRU). This inventory of waste was transferred to Waste Stream RF-W032.
2. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

| | | |
|-------------------------|---|----------------------------------|
| WASTE STREAM | WMIR ID | STREAM NAME |
| | RF-T004 | Misc. Pu Recovery By-Product/TRU |
| MATRIX CODE | Local ID | DESCRIPTION |
| | 411, 412, 414, 409 | Salts |
| | 3141 | |
| SITE FINAL FORM IDC | 411, 412 | |
| Waste Matrix Code Group | Salt Waste | |
| Site Matrix Description | This waste is generated during plutonium recovery operations such as direct oxide reduction, molten salt extration, electrorefining, and salt scrub. (IDCs 409, 411, 412, 414) | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 124

TRUCON CODE RF 124

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | |
|---|--|--|--|--|--|
| X | | | | | |
|---|--|--|--|--|--|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--|--|--|---|--|
| | | | X | |
|--|--|--|---|--|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

| | | | | |
|---------|----------------------|------------------------|---------------------------------|----------------------|
| RF-T004 | CONTAINER: Drum | Container Matl: metal | Liner Type: rigid | Number Stored: 0 |
| | Type/Size: 55-gallon | Int. Vol/Ctnr: 0.21 m3 | Liner Material: HDPE/fiberboard | Number Projected: 42 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 23.8 | 4.8 | 28.6 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 261.9 | 124.3 | 719.1 |
| Cellulotics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.4 | 0.4 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 3.73E+01 Curies/m3 |
| Pu240 | 8.55E+00 Curies/m3 |
| Pu241 | 2.03E+02 Curies/m3 |
| Am241 | 4.23E-01 Curies/m3 |

Comments

Assume typical isotopic composition is same as Misc. Pu Recovery By-Product/TRM

Footnotes

- The inventory for this waste stream contains mixed residues (1.47 m3 in 1992 and 0.74 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
- The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | |
|---|------------------------|--------------------------------|
| <u>WASTE STREAM</u> | <u>MWIR ID</u> | <u>STREAM NAME</u> |
| | WIPP ID RF-T005 | Particulate Sludge/TRU |
| <u>MATRIX CODE</u> | Local ID 292, 299, 372 | <u>DESCRIPTION</u> |
| | 3129 | Uncategorized Inorganic Sludge |
| <u>SITE FINAL FORM IDC</u> | n/a | |
| Waste Matrix Code Group Site Matrix Description Solidified Inorganics This waste was generated from plutonium recovery operations in Building 771. The waste consists of IDCs 292, 299, and 372. This waste is packaged in 55-gallon drums with multiple bag liners. Final waste form for this waste is Solidified Process Solids/TRU (IDC 806). | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input checked="" type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T005

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: metal
Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid
Liner Material: HDPE

Number Stored: 0
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 68.3 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 489.0 | 376.2 | 635.7 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 208.9 | 160.7 | 271.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.0 m3 |
| End of 1993: | 0.4 | 0.0 m3 |
| 1994: | 0.8 | 0.0 m3/yr |
| 1995: | 1.7 | 0.0 m3/yr |
| 1996: | 1.3 | 0.0 m3/yr |
| 1997: | 0.1 | 0.0 m3/yr |
| 1998-2002: | 0.3 | 0.0 m3/yr |
| 2003-2022: | 0.5 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 2.41E+01 Curies/m3 |
| Pu240 | 5.52E+00 Curies/m3 |
| Pu241 | 1.31E+02 Curies/m3 |
| Am241 | 0.00E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Footnotes

1. This waste stream must be immobilized to meet WIPP WAC. After treatment it is converted to IDC 806 and the final waste form volumes are transferred to Waste Stream RF-T006 with a volume increase of 1 : 2.21.
2. These typical waste densities are for the final waste forms (RF-T006).

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

| | | |
|-------------------------|-----------------|--|
| WASTE STREAM | WMIR ID | STREAM NAME |
| | WIPP ID RF-T006 | Solidified Process Solids/TRU |
| | Local ID 306 | |
| MATRIX CODE | | DESCRIPTION |
| | 806 | Final waste form for Particulate Sludges after treatment |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | | |
| Site Matrix Description | | |

This waste stream represents the solidified final form of all particulate and sludge type materials. Particulates and sludge type materials are immobilized with Portland cement. The cemented wastes are cast into 1-gallon molds and allowed to cure prior to packaging. This is the final waste form for Firebrick, Pulverized or Fines/TRM (RF-W036), Incinerator Ash/TRM (RF-W040), Particulate Sludge/TRM (RF-W068), and Sand, Slag, and Crucible/TRM (RF-W059). IDC 806 - All inorganic particulate and inorganic sludge waste must be immobilized by processing into a solid and identified as IDC 806.

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 114 TRUCON CODE RF 114

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|--------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | | | | | |
| | | | | Maintenance | | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T006

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: metal

Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored: 3

Number Projected: 165

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 68.3 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 489.0 | 376.2 | 635.7 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 208.9 | 160.7 | 271.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 3.50E+01 Curies/m3 |
| Pu240 | 8.01E+00 Curies/m3 |
| Pu241 | 1.91E+02 Curies/m3 |
| Am241 | 4.76E+00 Curies/m3 |

TYPICAL ISOTOPIC COMPOSITION

| Projected | Final Form |
|--------------|---------------|
| End of 1992: | 0.0 0.9 m3 |
| End of 1993: | 0.0 0.9 m3 |
| 1994: | 0.0 1.8 m3/yr |
| 1995: | 0.0 3.8 m3/yr |
| 1996: | 0.0 3.0 m3/yr |
| 1997: | 0.0 0.3 m3/yr |
| 1998-2002: | 0.0 0.6 m3/yr |
| 2003-2022: | 0.0 1.1 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Final waste form volumes include final waste form volumes from Particulate Sludges/TRU after treatment.

Footnotes

1. Final waste form volumes include treated waste from RF-T005 and RF-T076.
2. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.
3. The "Number Stored" field may not reflect the actual number of drums in storage, but the number of drums that would be generated if all waste streams that feed into RF-T006 were in final form.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

| | | |
|-------------------------|--|------------------------------------|
| WASTE STREAM | WASTE NAME | STREAM NAME |
| WIP ID | RF-T007 | Supercompacted Combustibles/TRU |
| Local ID | 2216 | Supercompacted combustible debris. |
| MATRIX CODE | 5330 | |
| SITE FINAL FORM IDC | 2216 | |
| Waste Matrix Code Group | Heterogeneous | |
| Site Matrix Description | This waste consists of cloth and paper products from cleanup of gloveboxes and spills which as been supercompacted for volume reduction. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT TRUCON CODE RF 116C

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | |
|-----------------------|---|-------------------|---------------------------|---|------|----------|
| Defense TRU Waste | X | Mixed TRU | Research and Devel. Waste | | TSCA | Asbestos |
| Non-Defense TRU Waste | | Non-Mixed TRU | Operations Waste | | | PCBs |
| Commercial TRU Waste | | Suspect Mixed TRU | Residues | | | Other |
| Unknown | | Unknown | Decon and Decommissioning | | | N/A |
| | | | Environmental Restoration | | | Unknown |
| | | | From Treatment of Waste | X | | |
| | | | Maintenance | | | |

Footnotes

This waste stream is listed in TRUCON but under "older" IDCs 831, 832, 833.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T007

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: metal
Int. Vol/Ctr: 0.21 m3

Liner Type: rigid
Liner Material: HDPE

Number Stored: 1
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 303.2 | 0.0 | 0.0 |
| Rubber | 28.8 | 0.0 | 0.0 |
| Plastics | 87.4 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 301.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 51.9 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|-----------|
| Pu239 | Curies/m3 |
| Pu240 | Curies/m3 |
| Pu241 | Curies/m3 |
| Am241 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper limit assumes a drum can contain all cellulosics, all rubber, or all plastics - actual max is 681.8.
Lower limit assumes that a single drum can contain no cellulosics, rubber or plastics - actual min is near zero.
Steel packaging materials assumes 1 overpack drum (55-gal) & 2 pucks (35-gal).
Plastic packaging materials assumes 1 PVC liner, 1 P.E. liner and 1 rigid liner.
Activity on these radionuclides is unknown.

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ TRU ☒ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | |
|---------------------|----------|-----------------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | Aqueous Sludge/TRU |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | Solidified Process Residues |

Waste Matrix Code Group Solidified Inorganics

Site Matrix Description This waste stream consists of aqueous sludge from wastewater treatment mixed with 30% Portland cement. IDC No. 800, 803, 807. The waste is generated as a result of process waste water treatment in Building 374 and 774. Aqueous sludge is produced by vacuum filtration of precipitated solids from pretreated aqueous waste slurry. Entrapped solids are skimmed off the surface of the filter medium of the rotating drum as wet sludge. The recaptured solids are chiefly hydroxides with pH of 10-12. The final waste form is obtained by mixing the wet sludge with approximately 30% Portland cement. RFP has several drums of aqueous sludge that were returned by INEL. These old drums were packaged by alternating the layers of cement and wet sludge or by adding cement to the top and bottom of a drum containing wet sludge. This older waste is described by IDC's 001, 002, and 007.

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 111

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T010

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: metal

Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored: 3

Number Projected: 121

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 395.6 | 44.2 | 767.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 400.5 | 44.3 | 767.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 64.8 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.6 | 0.6 m3 |
| End of 1993: | 0.6 | 0.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.2 | 0.2 m3/yr |
| 1996: | 0.3 | 0.3 m3/yr |
| 1997: | 0.3 | 0.3 m3/yr |
| 1998-2002: | 0.6 | 0.6 m3/yr |
| 2003-2022: | 1.1 | 1.1 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 5.16E-01 Curies/m3 |
| Pu240 | 1.18E-01 Curies/m3 |
| Pu241 | 2.81E+00 Curies/m3 |
| Am241 | 2.03E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

| | | | |
|--|-----------------|-------------|--------------|
| WASTE STREAM | MWIR ID | STREAM NAME | Metal/TRU |
| | WIPP ID RF-T011 | | |
| | Local ID 480 | DESCRIPTION | Metal debris |
| MATRIX CODE | | | |
| SITE FINAL FORM IDC | | | |
| | 5112 | | |
| | 480 | | |
| Waste Matrix Code Group | | | |
| Site Matrix Description | | | |
| Uncategorized Metal | | | |
| IDCs 480 and 481. This waste includes items such as gloveboxes and machinery, and empty containers. Items that are difficult to reduce to a size that would fit in a 55-gal. drum are placed in DOT 7A, Type A metal boxes. These drums are lined with a rigid polyethylene liner, fiberboard liner and several bag liners. The boxes are lined with a fiberboard and PVC liner. This waste also includes final form waste of classified metal (IDC Nos. 484, 485, 486, 489) after processing to declassified form. Inventory data include residues in IDCs 480 and 481. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 117

TRUCON CODE RF 117

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T011

CONTAINER: plywood box
Type/Size: 4x4x7

Container Mat: plywood
Int. Vol/Ctnr: 0 m3

Liner Type:
Liner Material:

Number Stored: 0
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 171.3 | 1.7 | 695.4 |
| Aluminum-Based Metals/Alloys | 18.6 | 0.0 | 238.9 |
| Other Metals | 16.5 | 0.0 | 67.0 |
| Other Inorganic Materials | 19.6 | 0.0 | 79.6 |
| Cellulosics | 5.5 | 0.0 | 22.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 10.1 | 0.0 | 41.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | | |
| Packaging Material, Plastic | 2.2 | | |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 3.2 | 0.0 m3 |
| End of 1993: | 3.2 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Assume waste in plywood box is repackaged into SWBs with 1:2 ratio.
End of 1992 - 1 plywood box repackaged into 2 SWBs
End of 1993 - 1 plywood box repackaged into 2 SWBs
Final waste form volumes included in final waste form volumes for SWBs.
Typical isotopic composition is not available for this container type.

TYPICAL ISOTOPIC COMPOSITION

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

RF-T011

CONTAINER: metal box
Type/Size: 4x4x7

Container Mat: metal
Int. Vol/Ctnr: 0m3

Liner Type:
Liner Material:

Number Stored: 0
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 171.3 | 1.7 | 695.4 |
| Aluminum-Based Metals/Alloys | 18.6 | 0.0 | 238.9 |
| Other Metals | 16.5 | 0.0 | 67.0 |
| Other Inorganic Materials | 19.6 | 0.0 | 79.6 |
| Cellulosics | 5.5 | 0.0 | 22.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 10.1 | 0.0 | 41.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 167.1 | 0.0 | 0.0 |
| Packaging Material, Plastic | 2.2 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 41.2 | 0.0 m3 |
| End of 1993: | 41.2 | 0.0 m3 |
| 1994: | -19.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Assume waste in metal boxes is repackaged into SWBs with 1:2 ratio.
End of 1992 - 13 metal boxes repackaged into 26 SWBs
End of 1993 - 13 metal boxes repackaged into 26 SWBs
Final form waste volumes included in final form waste volumes for SWBs.

Footnotes

1. The 1994 4x4x7 metal waste box inventory reflects a decrease of 19.02 m3 which is due to the Waste Characterization Re-assessment effort. This volume of waste was re-characterized as TRU Mixed waste (previously considered non-mixed TRU). This inventory of waste was transferred to Waste Stream RF-W011.
2. The typical waste densities for this container were derived for the SWB.

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T011

CONTAINER: Standard Waste Box

Type/Size:

Container Matl: metal

Int. Vol/Ctnr: 1.9 m3

Liner Type: Bag/rigid

Liner Material: PVC/fiberboard

Number Stored: 29

Number Projected: -14

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 171.3 | 1.7 | 695.4 |
| Aluminum-Based Metals/Alloys | 18.6 | 0.0 | 238.9 |
| Other Metals | 16.5 | 0.0 | 67.0 |
| Other Inorganic Materials | 19.6 | 0.0 | 79.6 |
| Cellulosics | 5.5 | 0.0 | 22.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 10.1 | 0.0 | 41.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | | |
| Packaging Material, Plastic | 2.2 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------|
| End of 1992: | 1.9 | 55.1 m3 |
| End of 1993: | 1.9 | 55.1 m3 |
| 1994: | 0.0 | -26.6 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1998: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Typical isotopic composition data is not available for this container type.

Footnotes

1. The 1994 SWB waste box inventory reflects a decrease of 38.04 m3 (11.44 m3 newly generated - 38.04 m3 re-characterized = -26.6 m3) which is due to the Waste Characterization Re-assessment effort. This volume of waste was re-characterized as TRU Mixed waste (previously considered non-mixed TRU). This inventory of waste was transferred to Waste Stream RF-W011.
2. The SWB final waste form volumes reflect repackaging waste that is currently in 4x4x7 metal and plywood boxes into SWBs at a ratio of 1:2 (one 4x4x7 box into two SWBs).
3. The number of containers stored (29) and number of projected (-14) includes waste that is presently stored in 4x4x7 metal boxes that will be repackaged into SWBs.
4. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T011

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: metal
Int. Vol/Cntr: 0.21 m3

Liner Type: rigid
Liner Material: HDPE/fiberboard

Number Stored: 171
Number Projected: 487

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 171.3 | 1.7 | 695.4 |
| Aluminum-Based Metals/Alloys | 18.6 | 0.0 | 238.9 |
| Other Metals | 16.5 | 0.0 | 67.0 |
| Other Inorganic Materials | 19.6 | 0.0 | 79.6 |
| Cellulose | 5.5 | 0.0 | 22.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 10.1 | 0.0 | 41.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 32.3 | 32.3 m3 |
| End of 1993: | 35.9 | 35.9 m3 |
| 1994: | 7.0 | 7.0 m3/yr |
| 1995: | 15.4 | 15.4 m3/yr |
| 1996: | 7.8 | 7.8 m3/yr |
| 1997: | 0.9 | 0.9 m3/yr |
| 1998-2002: | 1.5 | 1.5 m3/yr |
| 2003-2022: | 3.2 | 3.2 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 1.24E+00 Curies/m3 |
| Pu240 | 2.84E-01 Curies/m3 |
| Pu241 | 6.76E+00 Curies/m3 |
| Am241 | 9.54E-01 Curies/m3 |

Footnotes

1. The inventory for this waste stream contains mixed residues (14.28 m3 in 1992 and 6.11 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.
3. The typical waste densities for this container were derived for the SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

| | | | |
|----------------------------|---------|---|--|
| WASTE STREAM | | STREAM NAME | |
| MMIR ID | RF-T036 | Firebrick, Pulverized or Fines/TRU | |
| WIPP ID | 377 | | |
| Local ID | 3119 | | |
| MATRIX CODE | 377 | DESCRIPTION | |
| SITE FINAL FORM IDC | | Uncategorized Inorganic Particulates | |
| Waste Matrix Code Group | | Heterogeneous | |
| Site Matrix Description | | <p>This waste stream was previously named "Firebrick - Pulverized or Fines." IDC No. 377 and 378. This waste is generated from replacement of fire brick in the plutonium recovery incinerator in Building 771. The fire brick must be replaced periodically because of the plutonium buildup. The fire brick is pulverized to facilitate plutonium recovery. Material which assays below the economic discard limit is discarded as pulverized fire brick waste. The waste is packaged in 55-gallon drums lined with a rigid polyethylene liner. Inventory data include residues in the same IDCs. IDC 377 - Waste from IDC 371 which is smaller than one inch diameter and larger than 1/4 inch diameter. IDC 378 - Particulate firebrick residue from recovery or particulate firebrick waste for discard. This IDC must be processed into IDC 806 (RF-T06).</p> | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 122

TRUCON CODE RF 122

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒ Mixed TRU
 Non-Defense TRU Waste ☐ Non-Mixed TRU
 Commercial TRU Waste ☐ Suspect Mixed TRU
 Unknown ☐ Unknown

Research and Devel. Waste ☐
 Operations Waste ☒
 Residues ☐
 Decon and Decommissioning ☐
 Environmental Restoration ☐
 From Treatment of Waste ☐
 Maintenance ☐

TSCA Asbestos ☐
 PCBs ☐
 Other ☐
 N/A ☒
 Unknown ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T036

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: metal

Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid

Liner Material: HDPE/fiberboard

Number Stored: 6

Number Projected: 10

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 104.4 | 44.5 | 263.0 |
| Cellulosics | 28.9 | 14.5 | 57.7 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 19.2 | 9.6 | 38.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 3.4 | 3.4 m3 |
| End of 1993: | 1.3 | 1.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.1 | 0.1 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 1.50E+00 Curies/m3 |
| Pu240 | 3.43E-01 Curies/m3 |
| Pu241 | 8.17E+00 Curies/m3 |
| Am241 | 0.00E+00 Curies/m3 |

Footnotes

1. The inventory for this waste stream contains mixed residues (0.21 m3 in 1992 and 0.21 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

SITE NAME RF

SITE NAME RF

WASTE TYPE TRU

HANDLING **CH**

GENERATOR SITE REF

| | | | |
|--------------------------------|----------|--|----------------------------|
| <u>WASTE STREAM</u> | MWIR ID | <u>STREAM NAME</u> | Heavy Metal (non-SS)/TRU |
| | WIPP ID | | |
| | Local ID | | |
| <u>MATRIX CODE</u> | | <u>DESCRIPTION</u> | Uncategorized metal debris |
| <u>SITE FINAL FORM IDC</u> | | | |
| | | | |
| <u>Waste Matrix Code Group</u> | | Uncategorized Metal | |
| <u>Site Matrix Description</u> | | IDC No. 320 Heavy (non-SS) metal waste is generated at various locations throughout the RFP. Heavy scrap metals is defined as metal elements above Cu on the periodic chart. In 1987, IDC 321 was created specifically for lead. Prior to this, lead was not segregated from IDC 320. Typically, these scrap metals consist of crucibles, funnels, rods and fixturing from several processes and production operations. Tantalum, tungsten and platinum are examples of scrap metals at the RFP. Inventory data include residues in IDC 320. IDC 320 - Scrap metals which are heavier than iron and steel. Metal above Cu on the periodic table. Mainly used tantalum crucibles. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 117

TRUCON CODE RF 117

FINAL WASTE FORM DESCRIPTORS:

| Defense TRU Waste | Mixed TRU | Research and Devel. Waste | TSCA | Asbestos |
|-------------------|-----------|---------------------------|------|----------|
| X | | Operations Waste | X | PCBs |
| | X | Residues | | Other |
| | | Decon and Decommissioning | X | N/A |
| | | Environmental Restoration | | Unknown |
| | | From Treatment of Waste | | |
| | | Maintenance | X | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

| | | | | |
|---------|---|--|--|--|
| RF-T037 | CONTAINER: Drum Type/Size: 55-gallon | Container Mat: metal Int. Vol/Ctnr: 0.21 m3 | Liner Type: rigid Liner Material: HDPE/fiberboard | Number Stored: 6 Number Projected: 18 |
|---------|---|--|--|--|

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 57.8 | 0.0 | 317.3 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 134.8 | 44.5 | 1057.7 |
| Other Inorganic Materials | 13.3 | 0.0 | 19.2 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.4 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.4 m3 |
| End of 1993: | 1.3 | 1.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.2 | 0.2 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 9.69E+00 Curies/m3 |
| Pu240 | 2.22E+00 Curies/m3 |
| Pu241 | 5.28E+01 Curies/m3 |
| Am241 | 0.00E+00 Curies/m3 |

Footnotes

1. The inventory for this waste stream contains mixed residues (0 m3 in 1992 and 0.21 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | |
|--|------------------------|---|--|
| <u>WASTE STREAM</u> | | <u>STREAM NAME</u> Solidified Lab Waste/TRU | |
| <u>MWIR ID</u> | <u>WIPP ID</u> RF-T038 | | |
| <u>Local ID</u> | <u>802</u> | | |
| <u>MATRIX CODE</u> | <u>3121</u> | | |
| <u>SITE FINAL FORM IDC</u> | <u>802</u> | | |
| <u>Waste Matrix Code Group</u> | | <u>DESCRIPTION</u> | |
| Solidified Inorganics | | | |
| <p><u>Site Matrix Description</u></p> <p>IDC No. 802. This waste stream is liquid waste solidified with Portland Cement. This waste consists of waste liquids from the analytical labs, research and development laboratories, and maintenance shops which are packaged and sent to Building 774 for immobilization with Portland cement and absorbent cement. These are wastes which are incompatible with the process collection system and the liquid waste treatment plant. Acidic wastes are neutralized before immobilization. Immobilization is done in 55-gallon drums. Approximately 21 gallons of waste are added to each drum prior to storage. This waste stream is newly identified since the Storage and Inventory Report.</p> | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ RF 113

TRUCON CODE ☐ RF 113

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|--------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T038

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: metal

Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored: 8

Number Projected: 132

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 935.0 | 311.7 | 1122.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 333.0 | 238.0 | 476.2 |
| Solidified, Organic matrix | 0.0 | 0.0 | 567.3 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 64.8 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.7 | 1.7 m3 |
| End of 1993: | 2.1 | 2.1 m3 |
| 1994: | 8.1 | 8.1 m3/yr |
| 1995: | 11.2 | 11.2 m3/yr |
| 1996: | 8.4 | 8.4 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 1.79E-01 Curies/m3 |
| Pu240 | 4.10E-02 Curies/m3 |
| Pu241 | 9.76E-01 Curies/m3 |
| Am241 | 3.15E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | |
|--|--------------------------|--------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID RF-T052 | Glass/TRU |
| | Local ID 440,441,442,856 | |
| MATRIX CODE | 5122 | DESCRIPTION |
| SITE FINAL FORM IDC | 440, 441 | Glass debris |
| Waste Matrix Code Group Site Matrix Description Inorganic Non-metal This waste stream is glass from D&D, labs, etc. IDC 440, 441, 442, 856. This waste stream is made up of glass from analytical labs, recovery processes, ceramics, and glovebox windows. This waste stream was previously named "Glass." Inventory data include residues in the same IDCs. This waste form has been characterized by TCLP analytical data and process knowledge. Ground glass is characterized by process knowledge and limited analytical data. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 118

TRUCON CODE RF 118

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

| | |
|---------------------------|-------------------------------------|
| Research and Devel. Waste | <input checked="" type="checkbox"/> |
| Operations Waste | <input checked="" type="checkbox"/> |
| Residues | <input checked="" type="checkbox"/> |
| Decon and Decommissioning | <input checked="" type="checkbox"/> |
| Environmental Restoration | <input type="checkbox"/> |
| From Treatment of Waste | <input type="checkbox"/> |
| Maintenance | <input checked="" type="checkbox"/> |

| | |
|----------|-------------------------------------|
| TSCA | <input checked="" type="checkbox"/> |
| Asbestos | <input type="checkbox"/> |
| PCBs | <input type="checkbox"/> |
| Other | <input type="checkbox"/> |
| N/A | <input checked="" type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

RF-T052 CONTAINER: metal box Type/Size: 4x4x7

Container Matl: metal Int. Vol/Ctnr: 0 m3

Liner Type: Liner Material:

Number Stored: 0 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 244.3 | 20.7 | 466.5 |
| Cellulosics | 1.1 | 0.0 | 1.1 |
| Rubber | 1.1 | 0.0 | 1.1 |
| Plastics | 19.8 | 0.0 | 19.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | | |
| Packaging Material, Plastic | 2.2 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 31.7 | 0.0 m3 |
| End of 1993: | 31.7 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Assume waste in metal boxes is repackaged into SWBs with 1:2 ratio.
 End of 1992 - 10 metal boxes repacked into 20 SWBs
 End of 1993 - 10 metal boxes repacked into 20 SWBs
 Final waste form volumes included in final waste form volumes for SWBs
 Typical isotopic composition data is not available for this container type.

Footnotes

The typical waste densities for this container were derived for the SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

RF-T052 CONTAINER: Standard Waste Box Type/Size: Container Matl: metal Liner Type: Bag/rigid Number Stored: 20
 Int. Vol/Ctnr: 1.9m3 Liner Material: PVC/fiberboard Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

TYPICAL ISOTOPIC COMPOSITION

| Material Parameters | Average | Projected | Final Form |
|---------------------|---------|-----------|------------|
|---------------------|---------|-----------|------------|

| | | | |
|------------------------------|-------|-------|-----------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 38.0 m3 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 38.0 m3 |
| Other Metals | 0.0 | 0.0 | 0.0 m3/yr |
| Other Inorganic Materials | 244.3 | 466.5 | 0.0 m3/yr |
| Cellulosics | 1.1 | 1.1 | 0.0 m3/yr |
| Rubber | 1.1 | 1.1 | 0.0 m3/yr |
| Plastics | 19.8 | 19.8 | 0.0 m3/yr |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 m3/yr |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 m3/yr |
| Soils | 0.0 | 0.0 | 0.0 m3/yr |
| Packaging Materials, Steel | 187.1 | 0.0 | 0.0 m3/yr |
| Packaging Material, Plastic | 2.2 | 0.0 | 0.0 m3/yr |

Comments

Final waste form volumes include waste repackaged from metal boxes.
 Typical isotopic composition data is not available for this container type.

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.
2. The number of containers stored (20) includes waste that is presently stored in 4x4x7 metal boxes that will be repackaged into SWBs.

TYPICAL EPA CODES APPLICABLE

RF-T052 - 3

RF - 37

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T052

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: metal

Int. Vol/Ctnr: 0.21 m³

Liner Type: rigid

Liner Material: HDPE/fiberboard

Number Stored: 220

Number Projected: 33

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 244.3 | 20.7 | 466.5 |
| Cellulosics | 1.1 | 0.0 | 1.1 |
| Rubber | 1.1 | 0.0 | 1.1 |
| Plastics | 19.8 | 0.0 | 19.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 56.5 | 56.5 m ³ |
| End of 1993: | 46.2 | 46.2 m ³ |
| 1994: | 1.4 | 1.4 m ³ /yr |
| 1995: | 1.9 | 1.9 m ³ /yr |
| 1996: | 1.4 | 1.4 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.1 | 0.1 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu239 | 1.71E+00 Curies/m ³ |
| Pu240 | 3.91E-01 Curies/m ³ |
| Pu241 | 9.30E+00 Curies/m ³ |
| Am241 | 0.00E+00 Curies/m ³ |

Comments

Site final form IDC also includes 442 and 856.

Footnotes

- The inventory for this waste stream contains mixed residues (0.63 m³ in 1992 and 3.37 m³ in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
- The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☒ TRU ☐ CH ☐ GENERATOR SITE ☐ RF

| | | |
|---------------------|----------|------------------------|
| WASTE STREAM | MMIR ID | STREAM NAME |
| | WIPP ID | Mg Oxide Crucibles/TRU |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | Ceramic/Brick Debris |

Waste Matrix Code Group
Site Matrix Description

Inorganic Non-metal

IDCs 370, 368 and 655. This waste stream includes any type or size of ceramic crucibles or liners including LECO crucibles. This waste consists of magnesium oxide ceramic crucible, magnesium oxide crucible fragments with reactive salts of calcium, magnesium, sodium, and/or potassium adhering to the surface and containing plutonium residue. This waste stream was generated during plutonium recovery using pyrochemical and electro-chemical processing. Waste is placed in 4-liter poly bottles and double plastic bagged or placed in 1 gallon or 1 quart paint cans then placed into 55-gallon drums. Inventory data include residues in IDC 368.

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 118

TRUCON CODE RF 118

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T056

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: metal
Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid
Liner Material: HDPE

Number Stored: 6
Number Projected: 3

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 11.9 | 0.0 | 23.8 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 370.2 | 111.0 | 828.4 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 26.9 | 0.0 | 53.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.9 | 1.9 m3 |
| End of 1993: | 1.3 | 1.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 2.21E+01 Curies/m3 |
| Pu240 | 5.06E+00 Curies/m3 |
| Pu241 | 1.20E+02 Curies/m3 |
| Am241 | 0.00E+00 Curies/m3 |

Footnotes

1. The inventory for this waste stream contains mixed residues (1.26 m3 in 1992 and 0 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

| | | |
|---|-----------------|--|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID RF-T067 | Insulation/TRU |
| | Local ID 438 | |
| MATRIX CODE | | DESCRIPTION |
| | 5129 | Uncategorized inorganic non-metal debris |
| SITE FINAL FORM IDC | 438 | |
| Waste Matrix Code Group Inorganic Non-metal | | |
| Site Matrix Description IDC 438 - This waste stream is contaminated insulation. The insulation is generated from construction and demolition onsite. This waste was characterized using process knowledge for manifesting purposes is 1987 and 1989 to determine if any reportable quantities per 49 CFR 172 were present. No laboratory analyses of these waste for RCRA hazardous constituents have been conducted. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 122

TRUCON CODE RF 122

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

| | | | | |
|---------|---|--|---|---|
| RF-T057 | CONTAINER: Drum Type/Size: 55-gallon | Container Mat: metal Int. Vol/Ctnr: 0.21 m3 | Liner Type: rigid Liner Material: HDPE | Number Stored: 32 Number Projected: 18 |
|---------|---|--|---|---|

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 84.7 | 2.2 | 362.8 |
| Cellulosics | 4.8 | 0.0 | 9.6 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 6.7 | 6.7 m3 |
| End of 1993: | 6.7 | 6.7 m3 |
| 1994: | 0.7 | 0.7 m3/yr |
| 1995: | 0.1 | 0.1 m3/yr |
| 1996: | 0.1 | 0.1 m3/yr |
| 1997: | 0.1 | 0.1 m3/yr |
| 1998-2002: | 0.1 | 0.1 m3/yr |
| 2003-2022: | 0.1 | 0.1 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 4.67E+00 Curies/m3 |
| Pu240 | 1.07E+00 Curies/m3 |
| Pu241 | 2.54E+01 Curies/m3 |
| Am241 | 0.00E+00 Curies/m3 |

Footnotes

- The inventory for this waste stream contains mixed residues (0.42 m3 in 1992 and 0.63 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
- The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | |
|----------------------------|-----------------|---|
| <u>WASTE STREAM</u> | <u>MWIR ID</u> | <u>STREAM NAME</u> |
| | <u>WIPP ID</u> | Sand, Slag and Crucible/TRU |
| | RF-T059 | |
| | <u>Local ID</u> | |
| <u>MATRIX CODE</u> | | <u>DESCRIPTION</u> |
| | 392, 398 | Solidified Inorganics This waste includes unpulverized sand, slag, and crucible (IDC 392) and pulverized sand, slag, and crucible (IDC 398). |
| | 3119 | |
| <u>SITE FINAL FORM IDC</u> | 392, 398 | |

Waste Matrix Code Group
Site Matrix Description

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒ Mixed TRU
Non-Defense TRU Waste ☐ Non-Mixed TRU
Commercial TRU Waste ☐ Suspect Mixed TRU
Unknown ☐ Unknown

☒ Research and Devel. Waste
☐ Operations Waste
☐ Residues
☐ Decon and Decommissioning
☐ Environmental Restoration
☐ From Treatment of Waste
☐ Maintenance

☒ TSCA
☐ Asbestos
☐ PCBs
☐ Other
☐ N/A
☐ Unknown

☐ ☐ ☐ ☒ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T059

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: metal

Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored: 0

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 68.3 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 489.0 | 376.2 | 635.7 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 208.9 | 160.7 | 271.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Footnotes

1. The inventory for this waste stream contains mixed residues (4.41 m3 in 1992 and 0 m3 in 1993). This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | |
|---------------------|-------------------|---------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID RF-T060 | Coarse Graphite/TRU |
| | Local ID 303, 312 | |
| MATRIX CODE | 3119 | DESCRIPTION |
| SITE FINAL FORM IDC | 303, 312 | Graphite Debris |

Waste Matrix Code Group Graphite
Site Matrix Description This waste form includes scarfed graphite chunks (IDC 303) and coarse graphite (IDC 312). This waste is a result of broken graphite molds from the classified weapons shape casting process. Solid. The cadmium is present as contaminated salt residues on the graphite.

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 115

TRUCON CODE RF 115

FINAL WASTE FORM DESCRIPTORS:

| | | | |
|-----------------------|-------------------------------------|-------------------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |

| | | |
|-------------------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T060

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: metal
Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid
Liner Material: HDPE/fiberboard

Number Stored: 84
Number Projected: 32

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 17.3 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 312.6 | 51.8 | 396.6 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 17.9 | 17.9 m3 |
| End of 1993: | 17.6 | 17.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.3 | 0.3 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 5.38E+00 Curies/m3 |
| Pu240 | 1.23E+00 Curies/m3 |
| Pu241 | 2.93E+01 Curies/m3 |
| Am241 | 0.00E+00 Curies/m3 |

Footnotes

1. The inventory for this waste stream contains mixed residues (86.94 m3 in 1992 and 87.07 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ TRU ☐ CH ☐ GENERATOR SITE ☐ RF

| | | |
|-------------------------|----------|---------------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID | Miscellaneous Liquids/TRU |
| | Local ID | |
| MATRIX CODE | | DESCRIPTION |
| SITE FINAL FORM IDC | | Uncategorized Wastewaters |
| Waste Matrix Code Group | | |
| Site Matrix Description | | |

IDC No. 070, 400, 401, 500, 503, 508, 527, and 541. As result of the shutdown of plutonium operations at RFP in November, 1989, several hundred plastic bottles and several tanks of process liquids remained in storage in Buildings 371, 559, 771, and 779. These liquids are included in the list of residues. Basis for the five-year projected generation is an estimate of the past three years generation history.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|--------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

RF-T063 CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: metal
Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid
Liner Material: HDPE

Number Stored: 1
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.3 | 0.0 m3 |
| End of 1993: | 0.3 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ TRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | |
|---------------------|----------|-------------|-----------------------|
| WASTE STREAM | MWIR ID | STREAM NAME | Filters and Media/TRU |
| | WIPP ID | | |
| | Local ID | | |
| MATRIX CODE | | DESCRIPTION | Composite filters |
| SITE FINAL FORM IDC | | | |

Waste Matrix Code Group
Site Matrix Description

This waste stream was previously named "Filter Waste/TRU." IDC No. 328, 331, 335, 342, 376, 490, 491, 492. Filter waste is generated from process operations throughout the plant site. This waste consists of Full-flow filters from the Building 771 Incinerator (IDC 328), full-flow filters from non-incineration operations (IDC 331), absolute glovebox filters from non-acid contaminated operations (IDC 335), acid contaminated absolute glovebox filters (IDC 342), acid contaminated HEPA filters (IDC 492), non-acid contaminated HEPA filters (IDC 492), plenum prefilters (IDC 491), filter media (IDC 338), and processed filter media (IDC 376). Processed filter media is material which has been treated using Portland cement to absorb moisture and neutralize acid contamination. Filter waste is packaged in 55-gallon drums and metal standard waste boxes. Inventory data include residues within the same IDCs.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ RF 119

TRUCON CODE ☐ RF 119

FINAL WASTE FORM DESCRIPTORS:

| | | | |
|-----------------------|-------------------------------------|-------------------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |

| | | | | | |
|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Operations Waste | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T066

CONTAINER: metal box
Type/Size: 4x4x7

Container Mat: metal
Int. Vol/Ctnr: 0 m3

Liner Type:
Liner Material:

Number Stored: 0
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 595.3 |
| Aluminum-Based Metals/Alloys | 42.1 | 0.0 | 440.7 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 15.0 | 0.0 | 154.8 |
| Cellulosics | 104.8 | 0.0 | 496.1 |
| Rubber | 1.1 | 0.0 | 11.3 |
| Plastics | 0.0 | 0.0 | 595.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | 0.0 | 0.0 |
| Packaging Material, Plastic | 2.2 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 6.3 | 0.0 m3 |
| End of 1993: | 6.3 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Assume waste in metal boxes is repackaged in SWBs with 1:2 ratio.
Final waste form volumes included in final waste form volumes for SWBs.
End of 1992 2 metal boxes repacked to 4 SWBs.
End of 1993 2 metal boxes repacked to 4 SWBs.
Typical isotopic composition data is not available for this container type.

Footnotes

The typical waste densities for this container were derived for the SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T066

CONTAINER: Standard Waste Box
Type/Size:

Container Mat: metal
Int. Vol/Ctnr: 1.9m3

Liner Type: rigid
Liner Material: fiberboard

Number Stored: 11
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 595.3 |
| Aluminum-Based Metals/Alloys | 42.1 | 0.0 | 440.7 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 15.0 | 0.0 | 154.8 |
| Cellulosics | 104.8 | 0.0 | 496.1 |
| Rubber | 1.1 | 0.0 | 11.3 |
| Plastics | 0.0 | 0.0 | 596.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | | |
| Packaging Material, Plastic | 2.2 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 13.3 | 20.9 m3 |
| End of 1993: | 13.3 | 20.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

Comments

Final waste form volumes include waste repackaged from metal boxes.
Typical isotopic composition data is not available for this container type.

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.
2. The number of containers stored (11) includes waste that is presently stored in 4x4x7 metal boxes that will be repackaged into SWBs.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T066

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: metal
Int. Vol/Ctnr: 0.21 m3

Liner Type: Rigid
Liner Material: HDPE/fiberboard

Number Stored: 80
Number Projected: 636

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 23.9 | 0.0 | 440.7 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 8.3 | 0.0 | 154.8 |
| Cellulosics | 30.0 | 0.0 | 496.1 |
| Rubber | 1.3 | 0.0 | 11.3 |
| Plastics | 88.0 | 0.0 | 595.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 24.6 | 24.4 m3 |
| End of 1993: | 17.0 | 16.8 m3 |
| 1994: | 2.0 | 2.0 m3/yr |
| 1995: | 3.2 | 3.2 m3/yr |
| 1996: | 2.4 | 2.4 m3/yr |
| 1997: | 0.1 | 0.1 m3/yr |
| 1998-2002: | 0.1 | 0.1 m3/yr |
| 2003-2022: | 6.3 | 6.3 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 6.10E+00 Curies/m3 |
| Pu240 | 1.40E+00 Curies/m3 |
| Pu241 | 3.32E+01 Curies/m3 |
| Am241 | 0.00E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Site final form IDC also includes 490 and 491.
IDC 331 must be immobilized to convert to IDC 376.
The following volumes were included in the final waste form volumes for Cemented Filters/TRU to reflect the immobilization of IDC 331:
End of 1992 .21m3 x 2.16 = .45m3
End of 1993 .21m3 x 2.16 = .45m3

Footnotes

1. The inventory for this waste stream contains mixed residues (32.97 m3 in 1992 and 38.01 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. The final waste form drum volumes for 1992 and 1993 show a decrease of 0.21 m3 as a result of processing IDC 331 waste and transferring to Waste Stream RF-T067.
3. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

| | | |
|---------------------|-----------------|----------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID RF-T067 | Cemented Filters/TRU |
| | Local ID 376 | |
| MATRIX CODE | 5410 | DESCRIPTION |
| SITE FINAL FORM IDC | 376 | Composite Filters |

Waste Matrix Code Group

Site Matrix Description

This waste stream was previously named "Filter Wastes/TRU." IDC No. 338 and 376. Filter waste is generated from process operations throughout the plant site. Processed filter media, DC 376, is material which has been treated using Portland cement to absorb moisture and neutralize acid contamination. Filter waste is packaged in 55-gallon drums and metal standard waste boxes. Inventory data include residues within the same IDCs because they are regulated as waste.

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 119

TRUCON CODE RF 119

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|---|--|--|--|
| X | | | |
|---|--|--|--|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | |
|---|--|--|
| X | | |
|---|--|--|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | |
|--|--|--|--|---|--|
| | | | | X | |
|--|--|--|--|---|--|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--|--|--|---|--|
| | | | X | |
|--|--|--|---|--|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T067

CONTAINER: Drum

Number Stored: 6

Type/Size: 55-gallon

Container Matl: metal

Number Projected: 0

Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid

Liner Material: HDPE

| TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3) | | | | STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION | | TYPICAL ISOTOPIIC COMPOSITION | |
|--|---------|-------------|-------------|--|------------|-------------------------------|--------------------|
| Material Parameters | Average | Lower Limit | Upper Limit | Projected | Final Form | Nuclide | Activity |
| Iron-based Metals/Alloys | 4.8 | 0.0 | 24.0 | End of 1992: 0.6 | 1.1 m3 | Pu239 | 6.61E+00 Curies/m3 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 | End of 1993: 0.6 | 1.1 m3 | Pu240 | 1.51E+00 Curies/m3 |
| Other Metals | 0.0 | 0.0 | 0.0 | 1994: 0.0 | 0.0 m3/yr | Pu241 | 3.60E+01 Curies/m3 |
| Other Inorganic Materials | 113.3 | 26.9 | 342.4 | 1995: 0.0 | 0.0 m3/yr | Am241 | 0.00E+00 Curies/m3 |
| Cellulosics | 0.0 | 0.0 | 0.0 | 1996: 0.0 | 0.0 m3/yr | | |
| Rubber | 0.0 | 0.0 | 0.0 | 1997: 0.0 | 0.0 m3/yr | | |
| Plastics | 14.4 | 0.0 | 38.5 | 1998-2002: 0.0 | 0.0 m3/yr | | |
| Solidified, Inorganic matrix | 141.5 | 33.6 | 427.6 | 2003-2022: 0.0 | 0.0 m3/yr | | |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 | | | | |
| Soils | 0.0 | 0.0 | 0.0 | | | | |
| Packaging Materials, Steel | 132.0 | | | | | | |
| Packaging Material, Plastic | 51.9 | | | | | | |

TYPICAL EPA CODES APPLICABLE

Footnotes

1. The inventory for this waste stream contains mixed residues (0.21 m3 in 1992 and 0.21 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. The final waste form volumes for 1992 and 1993 include 0.45 m3 from the treatment of IDC 331 from Waste Stream RF-T066.
3. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

| | | |
|---|------------------------|--------------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID RF-T069 | Organic Resins/TRU |
| | Local ID 430, 431, 809 | |
| MATRIX CODE | 3212 | DESCRIPTION |
| SITE FINAL FORM IDC | 809 | Organic resins |
| Solidified Organics | | |
| Waste Matrix Code Group | | |
| Site Matrix Description | | |
| This waste stream was previously named "Particulate-Sludge/TRU." IDC No. 430 and 431. This waste was generated from plutonium recovery operations in Building 771. It consists of unleached resin (IDC 430) and leached resin (IDC 431). The particulate and sludge (TRU mixed) waste (discussed in the National Report on Prohibited Wastes and Treatment Options and in Treatment Report No. 1) are unleached ion exchange resin (IDC 430) and Leached resin (IDC 431). The waste is packaged in 55-gallon drums with multiple bag liners. Inventory data include residues in these IDCs. Final waste form for this waste stream is cemented resin (IDC 809). | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 126 TRUCON CODE RF 126

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|--------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input checked="" type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T069

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: metal
Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid
Liner Material: HDPE

Number Stored: 57
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 475.0 | 316.7 | 617.5 |
| Cellulose | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 203.0 | 135.3 | 263.5 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 12.0 | 12.0 m3 |
| End of 1993: | 12.0 | 12.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 1.83E+00 Curies/m3 |
| Pu240 | 4.19E-01 Curies/m3 |
| Pu241 | 9.97E+00 Curies/m3 |
| Am241 | 0.00E+00 Curies/m3 |

Footnotes

1. The inventory for this waste stream contains mixed residues (2.94 m3 in 1992 and 3.36 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU HANDLING CH GENERATOR SITE RF

| | | |
|---------------------|------------------------|-------------|
| WASTE STREAM | MWIR ID | STREAM NAME |
| | WIPP ID RF-T076 | |
| | Local ID 044, 080, 092 | |
| MATRIX CODE | 3119 | |
| SITE FINAL FORM IDC | | |

Waste Matrix Code Group Solidified Inorganics

Site Matrix Description

This waste stream was previously named "Particulate-Sludge/TRU(2)." IDC Nos. 044, 050, 092, 099, 159, 289, 290, 332, 340, 422, and 423. This waste was generated from plutonium recovery operations in Building 771. The waste consists of low-purity oxide heel (IDC 289), incineration sludge (IDC 292), miscellaneous sludge (IDC 299), sludge from size reduction area (IDC 340), grit (IDC 372), soot (IDC 422), and soot heel (IDC 423). The waste is packaged in 55-gallon drums with multiple bag liners. Inventory data include residues in these IDCs. IDC 044 - AM and Misc. Oxide.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

X

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

X

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

X

TSCA Asbestos
PCBs
Other
N/A
Unknown

X

RF-T076 - 1

RF - 57

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-T076

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: metal
Int. Vol/Ctnr: 0.21 m³

Liner Type:
Liner Material:

Number Stored: 0
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 0.0 | 0.0 m ³ |
| End of 1993: | 0.0 | 0.0 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1998: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

Comments

Final waste form for these residues are included in other waste forms as REP output.

Footnotes

1. The inventory for this waste stream contains mixed residues (0.63 m³ in 1992 and 5.96 m³ in 1993). This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|---------------------|----------|---------|-------------|---------------------------|
| WASTE STREAM | MWIR ID | RF-W008 | STREAM NAME | Soil & Cleanup Debris/TRM |
| | WIPP ID | RF-W008 | | |
| | Local ID | RF-374 | DESCRIPTION | |
| MATRIX CODE | | 5900 | | |
| SITE FINAL FORM IDC | | 374 | | |

Waste Matrix Code Group: Heterogeneous

Site Matrix Description: This waste stream is construction rubble generated during decontamination and decommissioning activities. The waste consists of blacktop/concrete/dirt/sand. The waste is generated from construction/demolition within the plutonium process buildings. The waste is usually packed in 55-gal. drums with multiple bag liners, a fiberboard liner, and a rigid polyethylene liner. Also, the waste can be packaged in DOT 7A, Type A metal boxes which are lined with a fiberboard and PVC liner. This waste is identified by IDC 374. Inventory data include mixed residues in this IDC. IDC 374 - Construction rubble generated during decontamination and decommissioning operations. Metals are considered to be potentially present in the rubble from demolition and cleanup activities. Solvents are potentially present from the materials used during decontamination.

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 121 TRUCON CODE RF 121

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|--------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W008

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: metal

Int. Vol/Ctnr: 0.21 m³

Liner Type: rigid

Liner Material: HDPE

Number Stored: 9

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 311.6 | 8.7 | 865.8 |
| Cellulosics | 12.0 | 12.0 | 12.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 12.0 | 12.0 | 12.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 64.9 | 9.6 | 865.8 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 1.9 | 1.9 m ³ |
| End of 1993: | 1.9 | 1.9 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu239 | 6.06E-01 Curies/m ³ |
| Pu240 | 1.39E-01 Curies/m ³ |
| Pu241 | 3.30E+00 Curies/m ³ |
| Am241 | 0.00E+00 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D006A
D007A
D008A
F001
F002
F005A

Footnotes

1. The inventory for this waste stream contains mixed residues (0.21 m³ in 1992 and 0.21 m³ in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|-------------------------|----------|---|-------------|-----------------------------|
| WASTE STREAM | MWIR ID | RF-W010 | STREAM NAME | Aqueous Sludge/TRM |
| | WIPP ID | RF-W010 | | |
| | Local ID | RF-800, 803, 807 | DESCRIPTION | Solidified process residues |
| MATRIX CODE | | 3150 | | |
| SITE FINAL FORM IDC | | 800,803,807 | | |
| Waste Matrix Code Group | | Solidified Inorganics | | |
| Site Matrix Description | | <p>This waste stream consists of aqueous sludge from wastewater treatment mixed with 30% Portland cement. IDC No. 800, 803, 807. The waste is generated as a result of process waste water treatment in Building 374 and 774. Aqueous sludge is produced by vacuum filtration of precipitated solids from pretreated aqueous waste slurry. Entrapped solids are skimmed off the surface of the filter medium of the rotating drum as wet sludge. The precipitated solids are chiefly hydroxides with pH of 10-12. The final waste form is obtained by mixing the wet sludge with approximately 30% Portland cement. RFP has several drums of aqueous sludge that were returned by INEL. These old drums were packaged by alternating the layers of cement and wet sludge or by adding cement to the top and bottom of a drum containing wet sludge. This older waste is described by IDC's 001, 002, and 007.</p> | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 111

TRUCON CODE RF 111

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|-------------------------------------|
| Mixed TRU | <input checked="" type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

| | |
|---------------------------|-------------------------------------|
| Research and Devel. Waste | <input type="checkbox"/> |
| Operations Waste | <input type="checkbox"/> |
| Residues | <input type="checkbox"/> |
| Decon and Decommissioning | <input type="checkbox"/> |
| Environmental Restoration | <input checked="" type="checkbox"/> |
| From Treatment of Waste | <input type="checkbox"/> |
| Maintenance | <input type="checkbox"/> |

| | | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

| | |
|------|----------|
| TSCA | Asbestos |
| | PCBs |
| | Other |
| | N/A |
| | Unknown |

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|---------|--|---|---|---|
| RF-W010 | CONTAINER: <input type="checkbox"/> Drum Type/Size: 55-gallon | Container Mat: <input type="checkbox"/> metal Int. Vol/Ctnr: 0.21 m ³ | Liner Type: <input type="checkbox"/> rigid Liner Material: <input type="checkbox"/> HDPE | Number Stored: 684 Number Projected: 396 |
|---------|--|---|---|---|

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 395.6 | 44.2 | 767.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 400.5 | 44.3 | 767.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 64.8 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 143.4 | 143.4 m ³ |
| End of 1993: | 143.6 | 143.6 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.9 | 0.9 m ³ /yr |
| 1996: | 0.9 | 0.9 m ³ /yr |
| 1997: | 0.9 | 0.9 m ³ /yr |
| 1998-2002: | 1.0 | 1.0 m ³ /yr |
| 2003-2022: | 3.8 | 3.8 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu239 | 5.16E-01 Curies/m ³ |
| Pu240 | 1.18E-01 Curies/m ³ |
| Pu241 | 2.81E+00 Curies/m ³ |
| Am241 | 2.03E+00 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D006A
D008A
F001
F002
F005A
F005A

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ MTRU ☒ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|--|----------|---------|-------------|--------------|
| WASTE STREAM | MWIR ID | RF-W011 | STREAM NAME | Metal/TRM |
| | WIPP ID | RF-W011 | | |
| | Local ID | RF-480 | DESCRIPTION | Metal debris |
| MATRIX CODE | | 5112 | | |
| SITE FINAL FORM IDC | | 480 | | |
| Waste Matrix Code Group Site Matrix Description Uncategorized Metal IDCs 480 and 481. This waste includes items such as gloveboxes and machinery, and empty containers. Items that are difficult to reduce to a size that would fit in a 55-gal. drum are placed in DOT 7A, Type A metal boxes. These drums are lined with a rigid polyethylene liner, fiberboard liner and several bag liners. The boxes are lined with a fiberboard and PVC liner. Inventory data include mixed residues in IDCs 480 and 481. | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ RF 117 TRUCON CODE ☐ RF 117

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W011

CONTAINER: metal box

Type/Size: 4x4x7

Container Mat: metal

Int. Vol/Ctnr: 0 m3

Liner Type:

Liner Material:

Number Stored: 0

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 171.3 | 1.7 | 695.4 |
| Aluminum-Based Metals/Alloys | 18.6 | 0.0 | 238.9 |
| Other Metals | 16.5 | 0.0 | 67.0 |
| Other Inorganic Materials | 19.6 | 0.0 | 79.6 |
| Cellulose | 5.5 | 0.0 | 22.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 10.1 | 0.0 | 41.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | | |
| Packaging Material, Plastic | 2.2 | | |

Comments

Assume waste in metal boxes will be repackaged into SWBs with 1:2 ratio
Final waste form volumes are included in final waste form volumes for SWBs

Footnotes

1. The 1994 inventory reflects an increase of 19.02 m3 which is due to the Waste Characterization Re-assessment effort. This volume of waste was re-characterized as TRU Mixed waste (previously considered non-mixed TRU). This inventory of waste was transferred from Waste Stream RF-T011.
2. The number of containers stored and number of containers projected is reported as 0 because these are not final packages. The waste reported on this sheet will be repackaged into SWB's.
3. The typical waste densities for this container were derived for the SWB.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 6.3 | 6.3 m3 |
| End of 1993: | 6.3 | 0.0 m3 |
| 1994: | 19.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D008C

F001

F002

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W011

CONTAINER: Standard waste box
Type/Size:

Container Mat: metal
Int. Vol/Ctnr: 1.9m3

Liner Type: Bag/rigid
Liner Material: PVC/fiberboard

Number Stored: 10
Number Projected: 12

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 171.3 | 1.7 | 695.4 |
| Aluminum-Based Metals/Alloys | 18.6 | 0.0 | 238.9 |
| Other Metals | 16.5 | 0.0 | 67.0 |
| Other Inorganic Materials | 19.6 | 0.0 | 79.6 |
| Cellulosics | 5.5 | 0.0 | 22.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 10.1 | 0.0 | 41.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | 0.0 | 0.0 |
| Packaging Material, Plastic | 2.2 | 0.0 | 0.0 |

Comments

Final waste form volumes reflect repackaging of metal boxes into SWBs with a 1:2 ratio
End of 1992 - 2 metal boxes repacked to 4 SWBs
End of 1993 - 2 metal boxes repacked to 4 SWBs
1994 - 6 metal boxes repacked to 12 SWBs

Footnotes

1. The number of containers stored (10) and the number of containers projected (12) includes waste that is presently stored in 4x4x7 metal boxes that will be repackaged into SWB's.
2. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity

RATES OF WASTE GENERATION

| Projected | Final Form |
|-------------------|------------|
| End of 1992: 11.4 | 19.0 m3 |
| End of 1993: 11.4 | 19.0 m3 |
| 1994: 0.0 | 22.8 m3/yr |
| 1995: 0.0 | 0.0 m3/yr |
| 1996: 0.0 | 0.0 m3/yr |
| 1997: 0.0 | 0.0 m3/yr |
| 1998-2002: 0.0 | 0.0 m3/yr |
| 2003-2022: 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D008C

F001

F002

RF-W011 - 3

RF - 65

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W011

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: metal
Int. Vol/Ctnr: 0.21 m³

Liner Type: rigid
Liner Material: HDPE/fiberboard

Number Stored: 231
Number Projected: 1464

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 171.3 | 1.7 | 695.4 |
| Aluminum-Based Metals/Alloys | 18.6 | 0.0 | 238.9 |
| Other Metals | 16.5 | 0.0 | 67.0 |
| Other Inorganic Materials | 19.6 | 0.0 | 79.6 |
| Cellulosics | 5.5 | 0.0 | 22.3 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 10.1 | 0.0 | 41.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------------------|
| End of 1992: | 60.3 | 60.6 m ³ |
| End of 1993: | 48.5 | 48.9 m ³ |
| 1994: | 7.1 | 7.1 m ³ /yr |
| 1995: | 16.0 | 16.0 m ³ /yr |
| 1996: | 12.5 | 12.5 m ³ /yr |
| 1997: | 2.7 | 2.7 m ³ /yr |
| 1998-2002: | 2.9 | 2.9 m ³ /yr |
| 2003-2022: | 12.7 | 12.7 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu239 | 2.03E+00 Curies/m ³ |
| Pu240 | 4.64E-01 Curies/m ³ |
| Pu241 | 1.10E+01 Curies/m ³ |
| Am241 | 1.84E+00 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D008C
F001
F002

Comments

Final waste form volume reflects inclusion of final form waste from treatment of PCB solid/TRM (RF-W001) of following amounts:
End of 1992 - 21m³
End of 1993 - 42m³

Footnotes

- The inventory for this waste stream contains mixed residues (16.42 m³ in 1992 and 6.14 m³ in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
- The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☒ MTRU ☐ HANDLING ☒ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|-------------------------|----------|---|-------------|----------------------------------|
| WASTE STREAM | MWIR ID | RF-W012 | STREAM NAME | Combustibles/TRM |
| | WIPP ID | RF-W012 | | |
| | Local ID | RF-831,832,833 | DESCRIPTION | Predominantly combustible debris |
| MATRIX CODE | | 5330 | | |
| SITE FINAL FORM IDC | | 831,832,822,83 | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | IDC No. 330, 336, 337, 831, 831, 833. The waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills, involving hazardous solvents. The bulk of these wastes are packaged in 55-gallon drums with one rigid polyethylene liner and several bag liners. In addition the waste may be repackaged into DOT 7A, Type A metal boxes which are lined with a fiberboard and PVC liner. Inventory data include mixed residue within the same IDCs. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 116

TRUCON CODE RF 116

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒ Mixed TRU
 Non-Defense TRU Waste ☐ Non-Mixed TRU
 Commercial TRU Waste ☐ Suspect Mixed TRU
 Unknown ☐ Unknown

Research and Devel. Waste ☒
 Operations Waste ☐
 Residues ☐
 Decon and Decommissioning ☐
 Environmental Restoration ☐
 From Treatment of Waste ☐
 Maintenance ☒

TSCA Asbestos
 PCBs
 Other
 N/A
 Unknown

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W012

CONTAINER: metal box
Type/Size: 4x4x7

Container Mat: metal
Int. Vol/Ctnr: 0 m3

Liner Type:
Liner Material:

Number Stored: 0
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.1 | 0.0 | 7.2 |
| Cellulosics | 64.2 | 0.0 | 481.6 |
| Rubber | 6.1 | 0.0 | 481.6 |
| Plastics | 18.5 | 0.0 | 481.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | | |
| Packaging Material, Plastic | 2.2 | | |

RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 15.9 | 0.0 m3 |
| End of 1993: | 15.9 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

F001
F002
F005A
F005A

Comments

Assume waste in metal boxes will be repackaged into SWB's with 1:2 ratio.
Final waste form volumes are included in final waste form volumes for SWB's.

Footnotes

1. The number of containers stored is reported as 0 because these are not final packages. The waste reported on this sheet will be repackaged into SWB's.
2. The typical waste densities for this container were derived for the SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W012

CONTAINER: Standard waste box
Type/Size:

Container Mat: metal
Int. Vol/Ctnr: 1.9m3

Liner Type: Bag
Liner Material: PVC

Number Stored: 15
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.1 | 0.0 | 7.2 |
| Cellulosics | 64.2 | 0.0 | 481.6 |
| Rubber | 6.1 | 0.0 | 481.6 |
| Plastics | 18.5 | 0.0 | 481.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | | |
| Packaging Material, Plastic | 2.2 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 9.5 | 28.5 m3 |
| End of 1993: | 9.5 | 28.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

F001
F002
F005A
F003A

Comments

Final waste form volumes reflect repackaging of metal boxes into SWB's with a 1:2 ratio

End of 1992 - 5 metal boxes repacked into 10 SWB's
End of 1993 - 5 metal boxes repacked into 10 SWB's

Footnotes

1. The number of containers stored (15) includes waste that is presently stored in 4x4x7 metal boxes that will be repackaged into SWB's.
2. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

RF-W012 - 3

RF - 69

2/28/95

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity
0.00E+00 Curies/m3

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W012

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: metal

Int. Vol/Cntr: 0.21 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored: 1130

Number Projected: 2914

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.1 | 0.0 | 7.2 |
| Cellulose | 64.2 | 0.0 | 481.6 |
| Rubber | 6.1 | 0.0 | 481.6 |
| Plastics | 18.5 | 0.0 | 481.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE - ESTIMATED

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------|
| End of 1992: | 267.9 | 267.9 m3 |
| End of 1993: | 237.3 | 237.3 m3 |
| 1994: | -10.4 | -10.4 m3/yr |
| 1995: | 19.2 | 19.2 m3/yr |
| 1996: | 15.7 | 15.7 m3/yr |
| 1997: | 6.2 | 6.2 m3/yr |
| 1998-2002: | 6.3 | 6.3 m3/yr |
| 2003-2022: | 27.5 | 27.5 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 9.49E-01 Curies/m3 |
| Pu240 | 2.17E-01 Curies/m3 |
| Pu241 | 5.17E+00 Curies/m3 |
| Am241 | 7.34E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

F001
F002
F005A
F005A

Comments

On site final form IDC, 822 is also submitted for inclusion in TRUCON.
New densities assume no supercompaction.

Footnotes

- The inventory for this waste stream contains mixed residues (104.1 m3 in 1992 and 33.18 m3 in 1993; the decrease in inventory is due to repackaging efforts) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
- The 1994 inventory reflects a decrease of 19.32 m3 which is due to the Waste Characterization Re-assessment effort (8.9 m3 generated - 19.32 m3 transferred to non-mixed - -10.42 m3 represented for annual generation). This volume of waste was re-characterized as non-mixed TRU waste. This inventory of waste was transferred to Waste Stream RF-T002.
- The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|---------------------|----------|---------|-------------|-----------------------------|
| WASTE STREAM | MWIR ID | RF-W013 | STREAM NAME | Solidified Organics/TRM |
| | WIPP ID | RF-W013 | | |
| | Local ID | RF-801 | DESCRIPTION | Solidified Process Residues |
| MATRIX CODE | | 3222 | | |
| SITE FINAL FORM IDC | | 801 | | |

Waste Matrix Code Group Solidified Organics

Site Matrix Description

IDC No. 801. This waste stream includes waste TRU organic fluids which are transferred to Building 774 for cementation from Buildings 707, 776, and 777. The liquids are mixed with gypsum cement within 55-gallon drums. The drum is lined with one or two bag liners with a rigid polyethylene liner. This waste stream includes cemented solids, and organic sludges/particulates. IDC 801 - Organic waste from liquid waste processing in Building 774. Mixed waste.

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 112

TRUCON CODE RF 112

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

TSCA
Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

RF-W013 - 1

RF - 71

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W013

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: metal
Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid
Liner Material: HDPE

Number Stored: 530
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 521.6 | 199.1 | 728.3 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 467.5 | 178.5 | 652.8 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 64.8 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 111.3 | 111.3 m3 |
| End of 1993: | 111.3 | 111.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

F001
F002

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 4.70E-01 Curies/m3 |
| Pu240 | 1.08E-01 Curies/m3 |
| Pu241 | 2.56E+00 Curies/m3 |
| Am241 | 2.65E-01 Curies/m3 |

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

| | | | |
|-------------------------|-----------------|---|--------------------------|
| WASTE STREAM | MMWR ID RF-W026 | STREAM NAME | Used Absorbents/TRM |
| | WIPP ID RF-W026 | | |
| | Local ID RF-375 | DESCRIPTION | Adsorbed Organic Liquids |
| MATRIX CODE | 3114 | | |
| SITE FINAL FORM IDC | 375 | | |
| Waste Matrix Code Group | | Inorganic Non-metal | |
| Site Matrix Description | | <p>This waste stream was previously named "Spent Absorbent/TRU (Oil Dry)". This waste stream was not specifically identified in the Storage and Inventory Report prepared by RFP in fulfillment of FFCA requirements. This waste is the TRU fraction of the waste titled "Oil Dry/LLW Mixed" in the Inventory Report. Normally it is LLW, but occasionally some assays as TRU. This waste stream is IDC N.. 375 Absorbents, usually vermiculite materials, which are used in the absorption, or absorption of any liquids as needed. One of the most commonly used absorbents is Oil Dry(R). Spent absorbents are assumed to be radiologically contaminated. The waste is packaged in 55-gallon drums lined with two polyethylene bags.</p> | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 122

TRUCON CODE RF 122

FINAL WASTE FORM DESCRIPTORS:

| | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |

| | | | | | |
|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Operations Waste | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W026

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: metal
Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid
Liner Material: HDPE

Number Stored: 1
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 182.3 | 182.3 | 182.3 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 8.3 | 8.3 | 8.3 |
| Solidified, Organic matrix | 8.3 | 8.3 | 8.3 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1998: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

F001

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|-----------|
| Pu239 | Curies/m3 |
| Pu240 | Curies/m3 |
| Pu241 | Curies/m3 |
| Am241 | Curies/m3 |

Comments

Typical activity (curies/m3) for these radionuclides is not known.

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|--|----------|---------|-------------|----------------|
| WASTE STREAM | MWIR ID | RF-W028 | STREAM NAME | Lead/TRM |
| | WIPP ID | RF-W028 | | |
| | Local ID | RF-321 | DESCRIPTION | Elemental Lead |
| MATRIX CODE | | 7211 | | |
| SITE FINAL FORM IDC | | 321 | | |
| Waste Matrix Code Group Site Matrix Description Lead/Cadmium Metal Waste IDC No. 321 - this waste stream consists of lead waste that is generated from discarded shielding, usually in the form of sheets and bricks used extensively in the Perimeter Security Zone (PSZ) to protect personnel against radiation exposure during plutonium processing. This waste is packaged in 55-gallon drums lined with fiberboard liner and two polyethylene bag liners. Inventory data include mixed residues of the same IDC. IDC 321 - all lead items and items containing lead except IDCs 302, 339, 341, 444, and 448. | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ RF 117

TRUCON CODE ☐ RF 117

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|--------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W028

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: metal

Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid

Liner Material: HDPE/fiberboard

Number Stored: 18

Number Projected: 38

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 592.2 | 16.0 | 1438.3 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 3.8 | 3.8 m3 |
| End of 1993: | 3.8 | 3.8 m3 |
| 1994: | 0.1 | 0.1 m3/yr |
| 1995: | 0.3 | 0.3 m3/yr |
| 1996: | 0.3 | 0.3 m3/yr |
| 1997: | 0.3 | 0.3 m3/yr |
| 1998-2002: | 0.3 | 0.3 m3/yr |
| 2003-2022: | 0.3 | 0.3 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 5.60E-01 Curies/m3 |
| Pu240 | 1.28E-01 Curies/m3 |
| Pu241 | 3.05E+00 Curies/m3 |
| Am241 | 1.86E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008C

Footnotes

1. The inventory for this waste stream contains mixed residues (0 m3 in 1992 and 0.42 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|---------------------|----------|---------|-------------|-----------------------------|
| WASTE STREAM | MWIR ID | RF-W029 | STREAM NAME | Leaded Gloves/TRM |
| | WIPP ID | RF-W029 | | |
| | Local ID | RF-339 | DESCRIPTION | Leaded Gloves/Aprons Debris |
| MATRIX CODE | | 5311 | | |
| SITE FINAL FORM IDC | | 339 | | |

Waste Matrix Code Group ☐ Lead/Cadmium Metal Waste

Site Matrix Description
 IDC No. 339. This waste stream consists of leaded rubber gloves which are used on gloveboxes to reduce radiation exposure to personnel. Gloves which are damaged, or do not meet safety inspection requirements are replaced with new gloves and discarded as waste. The gloves are packaged in 55-gallon drums lined with a rigid polyethylene liner and one bag liner. Inventory data include mixed residues in IDC 339. 339 - Leaded drybox gloves, not acid contaminated - See IDC 341 if the gloves are acid contaminated.

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ RF 123

TRUCON CODE ☐ RF 123

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W029

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: metal
Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid
Liner Material: HDPE

Number Stored: 103
Number Projected: 500

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 182.3 | 1.4 | 370.1 |
| Cellulosics | 5.4 | 1.2 | 10.1 |
| Rubber | 107.1 | 0.8 | 217.3 |
| Plastics | 16.3 | 0.0 | 30.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 20.8 | 20.8 m3 |
| End of 1993: | 21.6 | 21.6 m3 |
| 1994: | 3.0 | 3.0 m3/yr |
| 1996: | 5.2 | 5.2 m3/yr |
| 1998: | 4.2 | 4.2 m3/yr |
| 1997: | 1.4 | 1.4 m3/yr |
| 1998-2002: | 1.4 | 1.4 m3/yr |
| 2003-2022: | 4.2 | 4.2 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 3.99E+00 Curies/m3 |
| Pu240 | 9.13E-01 Curies/m3 |
| Pu241 | 2.17E+01 Curies/m3 |
| Am241 | 2.02E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008A

Comments

Other inorganic material - Pb3 04 - 63% of glove weight
Rubber - 37% of glove weight

Footnotes

- The inventory for this waste stream contains mixed residues (0.21 m3 in 1992 and 0.63 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
- The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

| | | | | |
|---|----------|---------|-------------|--------------------------------------|
| WASTE STREAM | MMIR ID | RF-W032 | STREAM NAME | Ground glass/TRM |
| | WIPP ID | RF-W032 | | |
| | Local ID | RF-444 | DESCRIPTION | uncategorized inorganic particulates |
| MATRIX CODE | | 3119 | | |
| SITE FINAL FORM IDC | | 444 | | |
| <p>Waste Matrix Code Group</p> <p>Site Matrix Description</p> <p>Inorganic Non-metal</p> <p>IDC No. 444. This waste stream is crushed fluorescent lights with some leached glass. Glass waste consists of crushed fluorescent lamps which come from the fluorescent lights used throughout the plutonium and uranium processing areas, as well as ground leaded glass. Small amounts of leached glass may be mixed with the crushed fluorescent lamp waste. This glass waste is packaged in 55-gallon drums that are lined with one fiberboard liner and two polyethylene bags. IDC 444 - ground/leaded glass. Mixed waste.</p> | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 118

TRUCON CODE RF 118

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

| | |
|---------------------------|-------------------------------------|
| Research and Devel. Waste | <input type="checkbox"/> |
| Operations Waste | <input type="checkbox"/> |
| Residues | <input type="checkbox"/> |
| Decon and Decommissioning | <input type="checkbox"/> |
| Environmental Restoration | <input type="checkbox"/> |
| From Treatment of Waste | <input type="checkbox"/> |
| Maintenance | <input checked="" type="checkbox"/> |

| | |
|----------|-------------------------------------|
| TSCA | <input type="checkbox"/> |
| Asbestos | <input type="checkbox"/> |
| PCBs | <input type="checkbox"/> |
| Other | <input checked="" type="checkbox"/> |
| N/A | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

RF-W032 CONTAINER: metal box Type/Size: 4x4x7 Container Matl: metal Int. Vol/Ctnr: 0 m3 Liner Type: Liner Material: Number Stored: 0 Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 137.5 | 77.7 | 215.5 |
| Cellulosics | 1.1 | 1.1 | 1.1 |
| Rubber | 1.1 | 1.1 | 1.1 |
| Plastics | 19.8 | 19.8 | 19.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | | |
| Packaging Material, Plastic | 2.2 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 3.2 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|----------|
|---------|----------|

TYPICAL EPA CODES APPLICABLE

D008A

Comments

Assume waste in metal boxes will be repackaged into SWBs with 1:2 ratio. Final waste form volumes are included in final waste form volumes for SWBs.

Footnotes

- 1. The 1994 inventory of 4x4x7 metal boxes reflects an increase of 3.17 m3 which is due to the Waste Characterization Re-assessment effort. This volume of waste was re-characterized as TRU Mixed waste (previously considered non-mixed TRU). This inventory of waste was transferred from Waste Stream RF-T003.
- 2. The typical waste densities for this container were derived for the SWB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

RF-W032 CONTAINER: Standard Waste Box Type/Size:

Container Mat: metal Int. Vol/Ctnr: 1.9 m3 Liner Type: Bag/rigid Liner Material: PVC/fiberboard

Number Stored: 1 Number Projected: 2

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 137.5 | 77.7 | 215.5 |
| Cellulosics | 1.1 | 1.1 | 1.1 |
| Rubber | 1.1 | 1.1 | 1.1 |
| Plastics | 19.8 | 19.8 | 19.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | | |
| Packaging Material, Plastic | 2.2 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.9 | 1.9 m3 |
| End of 1993: | 1.9 | 1.9 m3 |
| 1994: | 0.0 | 3.8 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE
D008A

Comments

Final waste form volumes reflect repackaging of metal boxes into SWBs with 1:2 ratio
1994 - 1 metal box repackaged into 2 SWBs.

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.
2. The number of containers projected (2) includes waste that is presently stored in 4x4x7 metal boxes that will be repackaged into SWB's.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W032

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: metal

Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid

Liner Material: HDPE/fiberboard

Number Stored: 4

Number Projected: 38

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 137.5 | 77.7 | 215.5 |
| Cellulosics | 1.1 | 1.1 | 1.1 |
| Rubber | 1.1 | 1.1 | 1.1 |
| Plastics | 19.8 | 19.8 | 19.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.8 | 0.8 m3 |
| 1994: | 0.1 | 0.1 m3/yr |
| 1995: | 0.3 | 0.3 m3/yr |
| 1996: | 0.3 | 0.3 m3/yr |
| 1997: | 0.3 | 0.3 m3/yr |
| 1998-2002: | 0.3 | 0.3 m3/yr |
| 2003-2022: | 0.3 | 0.3 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 2.45E-01 Curies/m3 |
| Pu240 | 5.61E-02 Curies/m3 |
| Pu241 | 1.33E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008A

Comments

Assumes no immobilization required which is supported by sample analysis.

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

| | | | |
|--|-----------------|-------------|--|
| WASTE STREAM | MWIR ID RF-W036 | STREAM NAME | Firebrick, pulverized or fines/TRM |
| | WIPP ID RF-W036 | | |
| | Local ID RF-377 | DESCRIPTION | uncateforitized inorganic particulates |
| MATRIX CODE | 3119 | | |
| SITE FINAL FORM IDC | 377 | | |
| <p>Waste Matrix Code Group Heterogeneous</p> <p>Site Matrix Description This waste stream was previously named "Firebrick - Pulverized or Fines." IDC No. 377 and 378. This waste is generated from replacement of fire brick in the plutonium recovery incinerator in Building 771. The fire brick must be replaced periodically because of the plutonium buildup. The fire brick is pulverized to facilitate plutonium recovery. Material which assays below the economic discard limit is discarded as pulverized fire brick waste. The waste is packaged in 55-gallon drums lined with a rigid polyethylene liner. Inventory data include mixed residues in the same IDCs. IDC 377 - Waste from IDC 371 which is smaller than one inch diameter and larger than 1/4 inch diameter. IDC 378 - Particulate firebrick residue from recovery or particulate firebrick waste for discard. This IDC must be processed into IDC 806 (RF-M01).</p> | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 122

TRUCON CODE RF 122

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W036

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: metal
Int. Vol/Cntr: 0.21 m3

Liner Type: rigid
Liner Material: HDPE/fiberboard

Number Stored: 11
Number Projected: 42

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 104.4 | 44.5 | 263.0 |
| Cellulosics | 28.9 | 14.5 | 57.7 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 19.2 | 9.6 | 38.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.8 | 0.2 m3 |
| End of 1993: | 2.9 | 2.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.6 | 0.4 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 5.24E+00 Curies/m3 |
| Pu240 | 1.20E+00 Curies/m3 |
| Pu241 | 2.85E+01 Curies/m3 |
| Am241 | 0.00E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D004A
D006A
D007A
D008A
F001
F002
F002
F005A

Footnotes

1. The inventory for this waste stream contains mixed residues (10.25 m3 in 1992 and 12.88 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | |
|--|-----------------|-------------|----------------------------|
| WASTE STREAM | WMIR ID RF-W037 | STREAM NAME | heavy metal (non-SS)/TRU |
| | WIPP ID RF-W037 | | |
| | Local ID RF-320 | DESCRIPTION | uncategorized metal debris |
| MATRIX CODE | 5190 | | |
| SITE FINAL FORM IDC | 320 | | |
| Waste Matrix Code Group | | | |
| Site Matrix Description | | | |
| Uncategorized Metal | | | |
| IDC No. 320 Heavy (non-SS) metal waste is generated at various locations throughout the RFP. Heavy scrap metal is defined at RFP as metal elements above Cu on the periodic chart. In 1987, IDC 321 was created specifically for lead. Prior to this, lead was not segregated from IDC 320. Typically, these scrap metals consist of crucibles, funnels, rods and fixturing from several processes and production operations. Tantalum, tungsten and platinum are examples of scrap metals at the RFP. Inventory data include mixed residues in IDC 320. IDC 320 - scrap metals which are heavier than iron and steel. Metal above Cu on the periodic table. Mainly used tantalum crucibles. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 117

TRUCON CODE RF 117

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|----------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | Asbestos |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | PCBs |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input checked="" type="checkbox"/> | | Other |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | N/A |
| | | | | Environmental Restoration | <input type="checkbox"/> | | Unknown |
| | | | | From Treatment of Waste | <input checked="" type="checkbox"/> | | |
| | | | | Maintenance | <input checked="" type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE [MTRU] HANDLING [CH] GENERATOR SITE [RF]

RF-W037 CONTAINER: drum Type/Size: 55-gallon

Container Matl: metal Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid

Liner Material: HDPE/fiberboard

Number Stored: 22

Number Projected: 96

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 57.8 | 0.0 | 317.3 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 134.8 | 44.5 | 1057.7 |
| Other Inorganic Materials | 13.3 | 0.0 | 19.2 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 5.5 | 5.5 m3 |
| End of 1993: | 4.6 | 4.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1998: | 0.0 | 0.0 m3/yr |
| 1999: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 1.0 | 1.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 2.09E+01 Curies/m3 |
| Pu240 | 4.79E+00 Curies/m3 |
| Pu241 | 1.14E+02 Curies/m3 |
| Am241 | 2.59E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008C

Footnotes

1. The inventory for this waste stream contains mixed residues (0 m3 in 1992 and 10.08 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|---------------------|----------|---------|-------------|-----------------------------|
| WASTE STREAM | MWIR ID | RF-W038 | STREAM NAME | Solidified Lab Waste/TRM |
| | WIPP ID | RF-W038 | DESCRIPTION | Solidified Process Residues |
| | Local ID | RF-802 | | |
| MATRIX CODE | | 3121 | | |
| SITE FINAL FORM IDC | | 802 | | |

Waste Matrix Code Group Solidified Inorganics

Site Matrix Description IDC No. 802. This waste stream is liquid waste solidified with Portland Cement. This waste consists of waste liquids from the analytical labs, research and development laboratories, and maintenance shops which are packaged and sent to Building 774 for immobilization with Portland cement and absorbent cement. These are wastes which are incompatible with the process collection system and the liquid waste treatment plant. Acidic wastes are neutralized before immobilization. Immobilization is done in 55-gallon drums. Approximately 21 gallons of waste are added to each drum prior to storage. This waste stream is newly identified since the Storage and Inventory Report.

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 113

TRUCON CODE RF 113

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|--------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W038

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: metal

Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored: 7

Number Projected: 100

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 935.0 | 311.7 | 1122.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 333.0 | 238.0 | 476.2 |
| Solidified, Organic matrix | 0.0 | 0.0 | 567.3 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 64.8 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.3 | 1.3 m3 |
| End of 1993: | 1.5 | 1.5 m3 |
| 1994: | 4.7 | 4.7 m3/yr |
| 1996: | 9.4 | 9.4 m3/yr |
| 1998: | 6.9 | 6.9 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 1.73E-01 Curies/m3 |
| Pu240 | 3.97E-02 Curies/m3 |
| Pu241 | 9.45E-01 Curies/m3 |
| Am241 | 1.23E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D007A

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | |
|---------------------|-----------------|-------------|--|
| WASTE STREAM | MWIR ID RF-W040 | STREAM NAME | Incinerator ash/TRM |
| | WIPP ID RF-W040 | | |
| | Local ID | DESCRIPTION | Ash. Final waste form of this waste is solidified process solids/TRM |
| MATRIX CODE | 3111 | | |
| SITE FINAL FORM IDC | | | |

Waste Matrix Code Group
Site Matrix Description

Solidified Inorganics

IDCs 419, 420, 421, 425 and 428. This waste stream was previously named "fluidized bed incinerator ash (TRU)-mixed." Ash is generated from operation of a fluidized bed incinerator in Building 776 or an incinerator in Building 771. The incinerator was used to burn office trash, combustible waste generated in process areas, combustible oils from refrigeration units, diesel fuel, and crank case oils. The oil had been accumulated as a low level mixed waste. FBI ash was packaged in 55-gallon drums lined with a rigid polyethylene liner and one bag liner. It is a portion of the waste stream entitled "fluidized bed incinerator ash/LLW mixed" in the inventory report. The ash normally assays as LLW but this portion was found to be TRU. Inventory data include mixed residues of the same IDC.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input checked="" type="checkbox"/> | Asbestos | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W040

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: metal
Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid
Liner Material: HDPE

Number Stored: 8
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 68.3 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 489.0 | 376.2 | 635.7 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 208.9 | 160.7 | 271.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.7 | 0.0 m3 |
| End of 1993: | 1.7 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 7.49E+00 Curies/m3 |
| Pu240 | 1.72E+00 Curies/m3 |
| Pu241 | 4.08E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

- D004A
- D005A
- D006A
- D007A
- D008A
- D009A
- D010A
- D011A
- F001
- F002
- F005A

Comments

1. This waste stream must be immobilized to convert to final waste form. A volume expansion of 2.11 occurs for processing of this TRUM waste to final form.

Footnotes

1. The inventory for this waste stream contains mixed residues (232.61 m3 in 1992 and 233.77 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. Final waste form reflects TRU waste inventories of incinerator ash being processed (with a volume expansion of 2.11). The final waste form volumes for this waste stream are in Waste Stream RF-M01.
3. The number of containers stored is for the year 1993. The number of

WASTE STREAM PROFILE FOR THE WIPP TRU SITE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ MTRU ☒ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | |
|--|-----------------|--------------------|-------------------------------------|
| WASTE STREAM | MWIR ID RF-W041 | STREAM NAME | Leaded Gloves-Acid Contaminated/TRM |
| | WIPP ID RF-W041 | | |
| | Local ID RF-341 | DESCRIPTION | Leaded Gloves/Aprons Debris |
| MATRIX CODE | 5311 | | |
| SITE FINAL FORM IDC | 339 | | |
| Waste Matrix Code Group Site Matrix Description Lead/Cadmium Metal Waste IDC No. 341. This waste stream consists of leaded rubber gloves used in the glovebox system for plutonium recovery operations in Buildings 771 and 371. These gloves are contaminated with nitric acid and other acids when replaced and discarded as waste. The gloves are packaged in 55-gallon drums lined with a rigid polyethylene liner and a bag liner. Inventory data include mixed residues in IDC 341. Leaded gloves as waste are currently characterized by process knowledge and sample analysis using the EP Toxicity Test. EP toxicity results of two new 30 mil glovebox type gloves (Lab # M85-2833) were below established levels for lead (D008) per 40 CFR 261.24, Table I. Leaded gloves discarded as waste have not been sampled due to the lack of capabilities to perform sample analysis on TRMs at RFP. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒ Mixed TRU
 Non-Defense TRU Waste ☐ Non-Mixed TRU
 Commercial TRU Waste ☐ Suspect Mixed TRU
 Unknown ☐ Unknown

☒ ☐ ☐ ☐

Research and Devel. Waste
 Operations Waste
 Residues
 Decon and Decommissioning
 Environmental Restoration
 From Treatment of Waste
 Maintenance

☒ ☐ ☐ ☐ ☐ ☐ ☐

TSCA Asbestos
 PCBs
 Other
 N/A
 Unknown

☐ ☐ ☐ ☒ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W041

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: metal

Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored: 126

Number Projected: 55

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 193.2 | 1.1 | 312.9 |
| Cellulosics | 5.4 | 1.2 | 10.1 |
| Rubber | 113.5 | 0.6 | 183.8 |
| Plastics | 16.3 | 3.6 | 30.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 5.34E+00 Curies/m3 |
| Pu240 | 1.22E+00 Curies/m3 |
| Pu241 | 2.91E+01 Curies/m3 |
| Am241 | 7.94E+00 Curies/m3 |

TYPICAL ISOTOPIC COMPOSITION

| Projected | Final Form |
|-------------------|------------|
| End of 1992: 26.3 | 26.3 m3 |
| End of 1993: 26.5 | 26.5 m3 |
| 1994: 0.9 | 0.9 m3/yr |
| 1995: 1.8 | 1.8 m3/yr |
| 1996: 1.4 | 1.4 m3/yr |
| 1997: 0.3 | 0.3 m3/yr |
| 1998-2002: 0.3 | 0.3 m3/yr |
| 2003-2022: 0.3 | 0.3 m3/yr |

TYPICAL EPA CODES APPLICABLE

D008A

Comments

Must be washed to convert to IDC 339

Pb3 04 - 63% of glove weight

Rubber - 27% of glove weight

Footnotes

1. The inventory for this waste stream contains mixed residues (1.46 m3 in 1992 and 1.68 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | | | |
|--|----------|-----------------|-------------|--------------|
| WASTE STREAM | MWIR ID | RF-W052 | STREAM NAME | Glass/TRM |
| | WIPP ID | RF-W052 | | |
| | Local ID | 440,441,442,856 | DESCRIPTION | Glass debris |
| MATRIX CODE | | 5122 | | |
| SITE FINAL FORM IDC | | 440, 442* | | |
| Waste Matrix Code Group Site Matrix Description Inorganic Non-metal This waste stream is glass from D&D, labs, etc. IDC 440, 441, 442, 856. This waste stream is made up of glass from analytical labs, recovery processes, ceramics, and glovebox windows. This waste stream was previously named "glass." Inventory data include mixed residues in the same IDCs. This waste form has been characterized by TCLP analytical data and process knowledge. Ground glass is characterized by process knowledge and limited analytical data. | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ RF 118

TRUCON CODE ☐ RF 118

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input checked="" type="checkbox"/> | | N/A | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | <input checked="" type="checkbox"/> |
| | | | | Maintenance | <input checked="" type="checkbox"/> | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

| | | | | |
|---------|-------------------------------|-----------------------|--------------------------------|---------------------|
| RF-W052 | CONTAINER: Standard waste box | Container Mat: metal | Liner Type: Bag/rigid | Number Stored: 1 |
| | Type/Size: | Int. Vol/Ctnr: 1.9/m3 | Liner Material: PVC/fiberboard | Number Projected: 0 |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 244.3 | 20.7 | 486.5 |
| Cellulosics | 1.1 | 0.0 | 1.1 |
| Rubber | 1.1 | 0.0 | 1.1 |
| Plastics | 19.8 | 0.0 | 19.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | 0.0 | 0.0 |
| Packaging Material, Plastic | 2.2 | 0.0 | 0.0 |

TYPICAL ISOTOPIIC COMPOSITION

| Activity | Nuclide |
|----------|---------|
| 1.9 | m3 |
| 1.9 | m3 |
| 0.0 | m3/yr |
| 0.0 | m3/yr |
| 0.0 | m3/yr |
| 0.0 | m3/yr |
| 0.0 | m3/yr |
| 0.0 | m3/yr |
| 0.0 | m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Activity | Nuclide |
|----------|---------|
| 1.9 | m3 |
| 1.9 | m3 |
| 0.0 | m3/yr |
| 0.0 | m3/yr |
| 0.0 | m3/yr |
| 0.0 | m3/yr |
| 0.0 | m3/yr |
| 0.0 | m3/yr |
| 0.0 | m3/yr |

TYPICAL EPA CODES APPLICABLE

D005A
D008A
F001
F002

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU V TE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

RF-W052 CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: Metal
Int. Vol/Ctnr: 0.21 m³

Liner Type: rigid
Liner Material: HDPE/fiberboard

Number Stored: 56
Number Projected: 1316

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 244.3 | 20.7 | 466.5 |
| Cellulosics | 1.1 | 0.0 | 1.1 |
| Rubber | 1.1 | 0.0 | 1.1 |
| Plastics | 19.8 | 0.0 | 19.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

Comments

1DC 856 must be authorized for TRUPACT-II.

Footnotes

- The inventory for this waste stream contains mixed residues (8.74 m³ in 1992 and 8.40 m³ in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
- The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------------------|
| End of 1992: | 1.5 | 1.5 m ³ |
| End of 1993: | 11.8 | 11.8 m ³ |
| 1994: | 5.9 | 5.9 m ³ /yr |
| 1995: | 11.8 | 11.8 m ³ /yr |
| 1996: | 11.1 | 11.1 m ³ /yr |
| 1997: | 9.0 | 9.0 m ³ /yr |
| 1998-2002: | 9.0 | 9.0 m ³ /yr |
| 2003-2022: | 9.7 | 9.7 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D005A
D008A
F001
F002

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu239 | 1.28E+00 Curies/m ³ |
| Pu240 | 2.83E-01 Curies/m ³ |
| Pu241 | 6.75E+00 Curies/m ³ |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | |
|---|-------------------------|-------------|------------------------|
| WASTE STREAM | MWIR ID RF-W056 | STREAM NAME | Mg Oxide Crucibles/TRM |
| | WIPP ID RF-W056 | DESCRIPTION | Ceramic/Brick Debris |
| | Local ID RF-370,368,655 | | |
| MATRIX CODE | 5123 | | |
| SITE FINAL FORM IDC | 370, 368 | | |
| <p>Waste Matrix Code Group Inorganic Non-metal</p> <p>Site Matrix Description IDCs 370, 368 and 655. This waste stream includes any type or size of ceramic crucibles or liners including LECO crucibles. This waste consists of magnesium oxide crucible, magnesium oxide crucible fragments with reactive salts of calcium, magnesium, sodium, and/or potassium adhering to the surface and containing plutonium residue. This waste stream was generated during plutonium recovery using pyrochemical and electro-chemical processing. Waste is placed in 4-liter poly bottles and double plastic bagged or placed in 1 gallon or 1 quart paint cans, then placed into 55-gallon drums. Inventory data includes mixed residues in IDC 368.</p> | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 118

TRUCON CODE RF 118

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> | | |

RF-W056 - 1

RF - 96

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|----------------------|------------------------|-----------------------|----------------------|------------------|
| RF-W056 | CONTAINER: Drum | Container Matl: metal | Liner Type: rigid | Number Stored: 6 |
| Type/Size: 55-gallon | Int. Vol/Ctnr: 0.21 m3 | Liner Material: HDPE | Number Projected: 15 | |

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 11.9 | 0.0 | 23.8 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 370.2 | 111.0 | 828.4 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 26.9 | 0.0 | 53.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 51.9 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.6 | 0.6 m3 |
| End of 1993: | 1.3 | 1.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.2 | 0.2 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 5.50E+00 Curies/m3 |
| Pu240 | 1.26E+00 Curies/m3 |
| Pu241 | 3.30E+01 Curies/m3 |
| Am241 | 0.00E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D003D
D006A

Footnotes

1. The inventory for this waste stream contains mixed residues (45.21 m3 in 1992 and 46.31 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. Final waste form reflects TRU waste inventories being processed. The final waste form volumes for this waste stream are in Waste Stream RF-M001.
3. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

| | | | |
|---|--|--|-----------------------------------|
| <u>WASTE STREAM</u> | | <u>MMWR ID</u> RF-W057 | <u>STREAM NAME</u> Insulation/TRM |
| <u>WIPP ID</u> RF-W057 | | | |
| <u>Local ID</u> RF-438 | | | |
| <u>MATRIX CODE</u> | | | |
| <u>SITE FINAL FORM IDC</u> | | | |
| <u>Waste Matrix Code Group</u> | | | |
| <u>Site Matrix Description</u> | | | |
| Inorganic Non-metal. | | | |
| IDC 438 - This waste stream is contaminated insulation. The insulation is generated from construction and demolition onsite. This waste was characterized using process knowledge for manifesting purposes is 1987 and 1989 to determine if any reportable quantities per 49 CFR 172 were present. These are spent solvents from degreasing of plutonium or other metals. No laboratory analyses of these wastes for RCRA hazardous constituents have been conducted. | | Uncategorized inorganic non-metal debris | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 122

TRUCON CODE RF 122

FINAL WASTE FORM DESCRIPTORS:

| | |
|-----------------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| | |
|-------------------|--------------------------|
| Mixed TRU | <input type="checkbox"/> |
| Non-Mixed TRU | <input type="checkbox"/> |
| Suspect Mixed TRU | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> |

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| | | | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|

TSCA Asbestos
PCBs
Other
N/A
Unknown

| | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-W057

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: metal

Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored: 3

Number Projected: 78

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 84.7 | 2.2 | 362.8 |
| Cellulosics | 4.8 | 0.0 | 9.6 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

TYPICAL TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.6 | 0.6 m3 |
| End of 1993: | 0.6 | 0.6 m3 |
| 1994: | 0.1 | 0.1 m3/yr |
| 1995: | 0.3 | 0.3 m3/yr |
| 1996: | 0.3 | 0.3 m3/yr |
| 1997: | 0.3 | 0.3 m3/yr |
| 1998-2002: | 0.3 | 0.3 m3/yr |
| 2003-2022: | 0.7 | 0.7 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 2.73E+00 Curies/m3 |
| Pu240 | 6.24E-01 Curies/m3 |
| Pu241 | 1.48E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

F001
F002

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU HANDLING CH GENERATOR SITE RF

| | | | | |
|---------------------|----------|---------|-------------|----------------------------------|
| WASTE STREAM | MWIR ID | RF-W058 | STREAM NAME | Misc. Pu Recovery Byproducts/TRM |
| | WIPP ID | RF-W058 | | |
| | Local ID | RF-411 | DESCRIPTION | Chloride salts |
| MATRIX CODE | | 3141 | | |
| SITE FINAL FORM IDC | | 411 | | |

Waste Matrix Code Group Salt Waste

Site Matrix Description IDCs 365, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 418, 427, 429, 433, 434, 435, 473, and 654. This waste is generated during plutonium recovery operations such as direct oxide reduction molten salt extraction, electrorefining, and salt scrub. Its composition includes mixed salts, a probable presence of magnesium, sodium and potassium metals (reactivity characteristic D003) and chromium (D007). Inventory data include mixed residues in the IDCs. This waste stream includes inorganic sludges/particulates, and reactive metals. This waste consists of reactive molten and electrorefining (ER) salt residues from plutonium purification and direct oxide reduction.

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 124 TRUCON CODE RF 124

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|---|-------------------|---|---------------------------|---|------|----------|
| Defense TRU Waste | X | Mixed TRU | X | Research and Devel. Waste | | TSCA | Asbestos |
| Non-Defense TRU Waste | | Non-Mixed TRU | | Operations Waste | X | | PCBs |
| Commercial TRU Waste | | Suspect Mixed TRU | | Residues | | | Other |
| Unknown | | Unknown | | Decon and Decommissioning | | | N/A |
| | | | | Environmental Restoration | | | Unknown |
| | | | | From Treatment of Waste | | | |
| | | | | Maintenance | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W058

CONTAINER: Drum
Type/Size: 55-gallon

Container Mat: metal
Int. Vol/Ctnr: 0.21 m³

Liner Type: rigid
Liner Material: HDPE/fiberboard

Number Stored: 45
Number Projected: 229

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 23.8 | 4.8 | 28.6 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 261.9 | 124.3 | 719.1 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Protected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 9.7 | 9.7 m ³ |
| End of 1993: | 9.4 | 9.4 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 2.4 | 2.4 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu239 | 3.73E+01 Curies/m ³ |
| Pu240 | 8.55E+00 Curies/m ³ |
| Pu241 | 2.03E+02 Curies/m ³ |
| Am241 | 4.23E-01 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D002B
D003D
D007A

Footnotes

1. The inventory for this waste stream contains mixed residues (146.55 m³ in 1992 and 138.76 m³ in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

NAME RF

WASTE TYPE ☒ MTRU ☐ HANDLING ☒ CH ☐ GENERATOR SITE ☒ RF

| | | | | |
|---------------------|----------|---------|-------------|--|
| WASTE STREAM | MWIR ID | RF-W059 | STREAM NAME | Sand, Slag, and Crucible/TRM |
| | WIPP ID | RF-W059 | | |
| | Local ID | 391 | DESCRIPTION | Uncategorized Inorganic Particulates. Final waste form of this waste is Solidified Process Solids/TRM. |
| MATRIX CODE | | 3119 | | |
| SITE FINAL FORM IDC | | 391 | | |

Waste Matrix Code Group
Site Matrix Description

Solidified Inorganics

This waste includes unpulverized slag (IDC 387, 390, 395, 396), unpulverized sand and crucible (IDC 391), unpulverized sand, slag and crucible (IDC 392), sand slag and crucible heel (IDC 393), sand from button breakout (IDC 394), pulverized sand slag and crucible (IDC 398), and pulverized slag and crucible (IDC 399). This waste is generated during the reduction of plutonium tetrafluoride to plutonium metal. Its composition includes magnesium oxide sand, crucible, calcium metal and stainless steel (contains chromium). The calcium metal gives the reactivity characteristic of D003; the chromium gives the D007. Inventory data include mixed residues in these IDCs.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒
Non-Defense TRU Waste ☐
Commercial TRU Waste ☐
Unknown ☐

Mixed TRU ☒
Non-Mixed TRU ☐
Suspect Mixed TRU ☐
Unknown ☐

☒ ☐ ☐ ☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒ ☐ ☐ ☐ ☐ ☐ ☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐ ☐ ☐ ☒ ☐

TRUCON CODE

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W059

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: metal

Int. Vol/Ctnr: 0.208 m³

Liner Type: rigid

Liner Material: HDPE

Number Stored: 0

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 68.3 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 489.0 | 376.2 | 635.7 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 208.9 | 160.7 | 271.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 12.4 | 0.0 m ³ |
| End of 1993: | 12.4 | 0.0 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 7.5 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D003D

D007A

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu239 | 3.50E+01 Curies/m ³ |
| Pu240 | 8.01E+00 Curies/m ³ |
| Pu241 | 1.91E+02 Curies/m ³ |
| Am241 | 4.76E+00 Curies/m ³ |

Footnotes

1. The inventory for this waste stream contains mixed residues (42.11 m³ in 1992 and 31.51 m³ in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. Final waste form reflects TRU waste inventories being processed (with a volume increase of 1:2.16). The final waste form volumes for this waste stream are in Waste Stream RF-M001.
3. The typical waste densities are for the final waste for RF-M001.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ MTRU ☐ HANDLING ☐ CH ☐ GENERATOR SITE ☐ RF

| | | |
|--|---------------------|--------------------|
| WASTE STREAM | | STREAM NAME |
| Waste Matrix Code Group | Coarse Graphite/TRM | |
| Site Matrix Description | Graphite debris | |
| <p>This waste form includes scarfed graphite chunks (DC 303) and coarse graphite (DC 312). This waste is a result of broken graphite molds from the classified weapons shape casting process. Solid. The cadmium is present as contaminated salt residues on the graphite.</p> | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐ RF 115 ☐ TRUCON CODE ☐ RF 115 ☐

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|------|-------------------------------------|----------|--------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | PCBs | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | N/A | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | | | | |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | | | |
| | | | | Maintenance | <input type="checkbox"/> | | | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W060

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: metal

Int. Vol/Ctnr: 0.21 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored: 2

Number Projected: 176

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 17.3 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 312.6 | 51.8 | 386.6 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.4 m3 |
| End of 1993: | 0.4 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 1.8 | 1.8 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 1.91E+01 Curies/m3 |
| Pu240 | 4.37E+00 Curies/m3 |
| Pu241 | 1.04E+02 Curies/m3 |
| Am241 | 0.00E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D006A

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W063

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: metal

Int. Vol/Cntr: 0.208m3

Liner Type: rigid

Liner Material: HDPE

Number Stored: 0

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

Material Parameters

| | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

TYPICAL ISOTOPIC COMPOSITION

Nuclide Activity

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D002B

D007A

Comments

Final waste form volume included in other waste forms.
No isotopic data available.

Footnotes

1. The inventory for this waste stream contains mixed residues (14.5 m3 in 1992 and 5.02 m3 in 1993). This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.

RF-W063 - 2

RF - 107

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

WASTE STREAM

MMWR ID RF-W063

WIPP ID RF-W063

STREAM NAME

Miscellaneous liquids/TRM

Local ID 070, 400, 401

DESCRIPTION

Uncategorized wastewaters

MATRIX CODE

1190

SITE FINAL FORM IDC

Waste Matrix Code Group

Site Matrix Description

Solidified Inorganics
IDC No. 070, 400, 401, 500, 503, 508, 527, and 541. As result of the shutdown of plutonium operations at RFP in November, 1989, several hundred plastic bottles and several tanks of process liquids remained in storage in Buildings 371, 559, 771, and 779. These liquids are included in the list of mixed residues. Basis for the five-year projected generation is an estimate of the past three years generation history.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste

☒

Non-Defense TRU Waste

☐

Commercial TRU Waste

☐

Unknown

☐

Mixed TRU

☒

Non-Mixed TRU

☐

Suspect Mixed TRU

☐

Unknown

☐

Research and Devel. Waste

☒

Operations Waste

☐

Residues

☐

Decon and Decommissioning

☐

Environmental Restoration

☐

From Treatment of Waste

☐

Maintenance

☐

TSCA

Asbestos

☒

PCBs

☐

Other

☐

N/A

☐

Unknown

☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ MTRU

HANDLING ☐ CH

GENERATOR SITE RF

WASTE STREAM

MMWR ID RF-W065

WIPP ID RF-W065

Local ID RF-333

MATRIX CODE 6290

SITE FINAL FORM IDC

STREAM NAME Calcium Metal/TRM

DESCRIPTION Uncategorized reactive metals

Waste Matrix Code Group

Site Matrix Description

IDC 333. This material is elemental calcium used in plutonium reduction operations. Calcium metal pellets are mixed with plutonium tetrafluoride during the reduction process as a pyrotechnic initiator. It exhibits the characteristics of a RCRA reactive waste. 333 - Calcium Metal.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒ ☐ ☐ ☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒ ☐ ☐ ☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒ ☐ ☐ ☐ ☐ ☐ ☐ ☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☒ ☐ ☐ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ LTRU

HANDLING ☐ CH

GENERATOR SITE RF

RF-W065

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: Metal

Int. Vol/Cntr: 0.208 m³

Liner Type: Rigid

Liner Material: HDPE

Number Stored: 0

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

TYPICAL ISOTOPIC COMPOSITION

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

| End of 1992: | Projected | Final Form |
|--------------|-----------|------------------------|
| 0.0 | 0.0 | 0.0 m ³ |
| End of 1993: | 0.0 | 0.0 m ³ |
| 1994: | 0.0 | 0.0 m ³ /yr |
| 1995: | 0.0 | 0.0 m ³ /yr |
| 1996: | 0.0 | 0.0 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D003D

Comments

Volume change from 1992 to 1993 residues due to repackaging.
Final waste form volume included in other waste forms.
Isotopic data not available.

Footnotes

1. The inventory for this waste stream contains mixed residues (0.21 m³ in 1992 and .002 m³ in 1993). This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP VAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

WASTE STREAM

WMIR ID RF-W066

WIPP ID RF-W066

Local ID RF-490

STREAM NAME Filters & media/TRM

DESCRIPTION Composite filters

MATRIX CODE

5410

335, 342*

SITE FINAL FORM IDC

Waste Matrix Code Group

Filter

Site Matrix Description

This waste stream was previously named "Filter Waste/TRU." IDC No. 328, 331, 335, 342, 376, 490, 491, 492. Filter waste is generated from process operations throughout the plant site. This waste consists of Fu-40 filters from the Building 771 Incinerator (IDC 328), fu-40 filters from non-incineration operations (IDC 331), absolute glovebox filters from non-acid contaminated operations (IDC 335), acid contaminated absolute glovebox filters (IDC 342), acid contaminated HEPA filters (IDC 492), non-acid contaminated HEPA filters (IDC 492), plenum prefilters (IDC 491), filter media (IDC 338), and acid contamination. Filter waste is packaged in 55-gallon drums and metal standard waste boxes. Inventory data include mixed residues within the same IDCs.

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 119

RF 119

TRUCON CODE RF 119

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒ ☐ ☐ ☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒ ☐ ☐ ☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒ ☐ ☐ ☐ ☐ ☐ ☐

TSCA Asbestos

PCBs
Other
N/A
Unknown

☐ ☒ ☐ ☐

RF-W066 - 1

RF - 110

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W066

CONTAINER: metal box

Type/Size: 4x4x7

Container Matl: metal

Int. Vol/Cntr: 0 m3

Liner Type:
 Liner Material:

Number Stored: 0
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

Material Parameters

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 595.3 |
| Aluminum-Based Metals/Alloys | 42.1 | 0.0 | 440.7 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 15.0 | 0.0 | 154.8 |
| Cellulosics | 104.8 | 0.0 | 496.1 |
| Rubber | 1.1 | 0.0 | 11.3 |
| Plastics | 0.0 | 0.0 | 595.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | | |
| Packaging Material, Plastic | 2.2 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 3.2 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

TYPICAL EPA CODES APPLICABLE

D001C
D002B
D003E
D004A
D006A
D007A
D008A
D009X
D010A
D011A
F001
F002
F005A

Comments

Assume waste in metal boxes will be repackaged into SWBs with 1:2 ratio.
Final waste form volumes are included in final waste form volumes for SWBs.

Footnotes

1. The 1994 inventory reflects an increase of 3.17 m3 which is due to the Waste Characterization Re-assessment effort. This volume of waste was re-characterized as TRU mixed waste. This inventory of waste was transferred from Waste Stream RF-T066.

WASTE STREAM PROFILE FOR THE WIPP TRU WAS BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ MTRU ☐ CH

HANDLING ☐ CH

GENERATOR SITE RF

RF-W066 CONTAINER: Standard waste box Container Mat: metal Int. Vol/Cntr: 1.9/m3 Liner Type: Bag/rigid Number Stored: 1
Type/Size: Liner Material: PVC/fiberboard Number Projected: 2

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

TYPICAL ISOTOPIC COMPOSITION

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 595.3 |
| Aluminum-Based Metals/Alloys | 42.1 | 0.0 | 440.7 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 15.0 | 0.0 | 154.8 |
| Cellulosics | 104.8 | 0.0 | 496.1 |
| Rubber | 1.1 | 0.0 | 11.3 |
| Plastics | 0.0 | 0.0 | 595.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 187.1 | | |
| Packaging Material, Plastic | 2.2 | | |

| Projected | Final Form |
|------------------|------------|
| End of 1992: 1.9 | 1.9 m3 |
| End of 1993: 1.9 | 1.9 m3 |
| 1994: 0.0 | 3.8 m3/yr |
| 1995: 0.0 | 0.0 m3/yr |
| 1996: 0.0 | 0.0 m3/yr |
| 1997: 0.0 | 0.0 m3/yr |
| 1998-2002: 0.0 | 0.0 m3/yr |
| 2003-2022: 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D001C
D002B
D003E
D004A
D006A
D007A
D008A
D009X
D010A
D011A
F001
F002
F005A

Footnotes

1. The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.
2. The number of containers projected (2) includes waste that is presently stored in 4x4x7 metal boxes that will be repackaged into SWBs.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W066

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: metal
Int. Vol/Ctr: 0.21 m³

Liner Type: rigid
Liner Material: HDPE/fiberboar

Number Stored: 200
Number Projected: 2460

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 23.9 | 0.0 | 440.7 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 8.3 | 0.0 | 154.8 |
| Cellulosics | 30.0 | 0.0 | 496.1 |
| Rubber | 1.3 | 0.0 | 11.3 |
| Plastics | 7.8 | 0.0 | 595.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 1320 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| Projected | Final Form |
|-------------------|-------------------------|
| End of 1992: 48.3 | 42.8 m ³ |
| End of 1993: 47.7 | 42.0 m ³ |
| 1994: 2.5 | 1.8 m ³ /yr |
| 1996: 5.1 | 3.6 m ³ /yr |
| 1998: 3.9 | 2.8 m ³ /yr |
| 1997: 0.6 | 0.4 m ³ /yr |
| 1998-2002: 0.6 | 0.4 m ³ /yr |
| 2003-2022: 35.1 | 25.3 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu239 | 3.27E+00 Curies/m ³ |
| Pu240 | 7.49E-01 Curies/m ³ |
| Pu241 | 1.78E+01 Curies/m ³ |
| Am241 | 6.18E-02 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

- D001C
- D002B
- D003E
- D004A
- D006A
- D007A
- D008A
- D009X
- D010A
- D011A
- F001
- F002
- F005A

Footnotes

- The inventory for this waste stream contains mixed residues (78.72 m³ in 1992 and 54.40 m³ in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
- The drum final waste form reflects TRU waste inventories of IDCs 328 and 331 being processed (with a volume expansion of 2.16). Final waste form volumes for these IDCs are in Waste Stream RF-W067.
- The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WAS. - BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

WASTE STREAM

MMWR ID RF-W067

WIPP ID RF-W067

Local ID RF-376

STREAM NAME Cemented filters/TRM

DESCRIPTION Composite filters

MATRIX CODE

SITE FINAL FORM IDC

Waste Matrix Code Group

Filter

Site Matrix Description

This waste stream was previously named "Filter Waste/TRU." IDC NO. 338 and 376. Filter waste is generated from process operations throughout the plant site. Processed filter media, DC 376, is material which has been treated using Portland cement to absorb moisture and neutralize acid contamination. Filter waste is packaged in 55 gallon drums and metal standard waste boxes. Inventory data include mixed residues within the same IDCs because they are regulated as mixed waste. Hazardous constituents originate in liquid and gaseous effluents from processing operations.

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 119

TRUCON CODE RF 119

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒ ☐ ☐ ☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒ ☐ ☐ ☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☐ ☐ ☐ ☐ ☐ ☒

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐ ☐ ☒ ☐ ☐

RF-W067 - 1

RF - 114

2/28/95

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W067

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: metal

Int. Vol/Cntr: 0.21 m³

Liner Type: rigid
Liner Material: HDPE

Number Stored: 43
Number Projected: 2066

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 4.8 | 0.0 | 24.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 113.3 | 26.9 | 342.4 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 14.4 | 0.0 | 38.5 |
| Solidified, Inorganic matrix | 141.5 | 33.6 | 427.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| Projected | Final Form |
|------------------|-------------------------|
| End of 1992: 9.0 | 20.8 m ³ |
| End of 1993: 9.0 | 21.3 m ³ |
| 1994: 0.0 | 1.5 m ³ /yr |
| 1995: 0.0 | 3.1 m ³ /yr |
| 1996: 0.0 | 2.3 m ³ /yr |
| 1997: 0.0 | 0.3 m ³ /yr |
| 1998-2002: 0.0 | 0.3 m ³ /yr |
| 2003-2022: 0.0 | 21.2 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | Curies/m ³ |
|---------|----------|-----------------------|
| Pu239 | 6.61E+00 | Curies/m ³ |
| Pu240 | 1.51E+00 | Curies/m ³ |
| Pu241 | 3.60E+01 | Curies/m ³ |
| Am241 | 0.00E+00 | Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

D001C
D002B
D003E
D005A
D006A
D007A
D008A
D009X
F001
F002
F003

Footnotes

- The inventory for this waste stream contains mixed residues (1.25 m³ in 1992 and 6.93 m³ in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP WAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
- The final waste form volumes include volumes from treating TRU waste IDCs 328 and 331 from Waste Stream RF-W066.
- The number of containers stored is for the year 1993. The number of containers projected is for the years 1994 - 2022.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE ☐ TRU

HANDLING ☐ CH

GENERATOR SITE ☐ RF

| | | |
|----------------------------|---------|---|
| WASTE STREAM | | STREAM NAME |
| WMIR ID | RF-W068 | Particulate Sludge/TRM |
| WIPP ID | RF-W068 | |
| Local ID | 292 | |
| MATRIX CODE | 3129 | |
| SITE FINAL FORM IDC | | |
| | | DESCRIPTION |
| | | Uncategorized Inorganic Sludges. Final waste form of this waste is solidified process solids/TRM. |

| | |
|--------------------------------|---|
| Waste Matrix Code Group | Solidified Inorganics |
| Site Matrix Description | This waste stream was previously named "Particulate Sludge/TRU Mixed (2)." IDC No.s 292, 299, 372, and 823. This waste was generated from plutonium recovery operations in Building 771. The waste consists of incineration sludge (IDC 292), miscellaneous sludge (IDC 299), grit (IDC 372), and cemented miscellaneous sludge (IDC 823). Spent ion exchange resin waste is not included in this data. The waste is packaged in 55-gallon drums with multiple bag liners. Inventory data include mixed residues in these IDCs. This waste consists of a variety of organically contaminated sludges with particulate fines of heavy metals which are TRU contaminated. |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | From Treatment of Waste | <input checked="" type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

RF-W068

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: metal

Int. Vol/Cntr: 0.21 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored: 0

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 68.3 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 489.0 | 376.2 | 635.7 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 208.9 | 160.7 | 271.6 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 1320 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| Projected | Final Form |
|-------------------|------------|
| End of 1992: 23.1 | 0.0 m3 |
| End of 1993: 18.5 | 0.0 m3 |
| 1994: 1.5 | 0.0 m3/yr |
| 1995: 3.4 | 0.0 m3/yr |
| 1996: 2.7 | 0.0 m3/yr |
| 1997: 1.0 | 0.0 m3/yr |
| 1998-2002: 1.1 | 0.0 m3/yr |
| 2003-2022: 2.5 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu239 | 5.08E+00 Curies/m3 |
| Pu240 | 1.16E+00 Curies/m3 |
| Pu241 | 2.77E+01 Curies/m3 |
| Am241 | 0.00E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D001C
D006A
D007A
D008A
F001
F002
F005A

Footnotes

- The inventory for this waste stream contains mixed residues (2.93 m3 in 1992 and 2.14 m3 in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP VAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

| | | | | |
|----------------------------|-----------------|---------------|--------------------|--------------------|
| WASTE STREAM | WMIR ID | RF-W069 | STREAM NAME | Organic Resins/TRM |
| | WIPP ID | RF-W069 | | |
| | Local ID | 430, 431, 809 | DESCRIPTION | Organic Resins |
| MATRIX CODE | | 3212 | | |
| SITE FINAL FORM IDC | | 809 | | |

Waste Matrix Code Group

Site Matrix Description

This waste stream was previously named "Particulate-Sludge/TRU Mixed (2)." IDC No. 430 and 431. This waste was generated from plutonium recovery operations in Building 771. It consists of unleached resin (IDC 430) and leached resin (IDC 431). The particulate and sludge (TRU mixed) was (discussed in the National Report on Prohibited Wastes and Treatment Options and in Treatment Report No. 1) are unleached ion exchange resin (IDC 430) and leached resin (IDC 431). The waste is packaged in 55-gallon drums with multiple bag liners. Inventory data includes mixed residues in these IDCs. Final waste form for this waste stream is cemented resin (IDC 809).

NO MIGRATION VARIANCE PETITION ASSIGNMENT RF 126

TRUCON CODE RF 126

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|----------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | Asbestos | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | From Treatment of Waste | <input checked="" type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | Maintenance | <input type="checkbox"/> | | <input type="checkbox"/> |

RF-W069 - 1

RF - 118

2/28/95

RF-W069

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: metal

Int. Vol/Cnt: 0.21 m³Liner Type: rigid
Liner Material: HDPENumber Stored: 46
Number Projected: 233TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

Material Parameters

| | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 475.0 | 316.7 | 617.5 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 203.0 | 135.3 | 263.5 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 132.0 | | |
| Packaging Material, Plastic | 51.9 | | |

STORED TRU WASTE - ESTIMATED
RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------------------|
| End of 1992: | 12.8 | 27.7 m ³ |
| End of 1993: | 4.4 | 9.5 m ³ |
| 1994: | 0.7 | 1.5 m ³ /yr |
| 1995: | 1.4 | 3.1 m ³ /yr |
| 1996: | 1.0 | 2.2 m ³ /yr |
| 1997: | 0.0 | 0.0 m ³ /yr |
| 1998-2002: | 0.0 | 0.0 m ³ /yr |
| 2003-2022: | 1.0 | 2.1 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------------------|
| Pu239 | 5.94E-01 Curies/m ³ |
| Pu240 | 1.36E-01 Curies/m ³ |
| Pu241 | 3.24E+00 Curies/m ³ |
| Am241 | 0.00E+00 Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

Comments

IDCs 430 and 431 require immobilization to convert to final waste form (IDC 809).
Projected actual x 2.16 = final waste form.

Footnotes

1. The inventory for this waste stream contains mixed residues (0.21 m³ in 1992 and 0.63 m³ in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP VAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at

D001C
D006A
D007A
D008A
F001
F002
F005A

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

WASTE STREAM

MMWR ID RF-W076

STREAM NAME

Process Residues/TRM

WIPP ID RF-W076

Local ID 289, 292, 299

DESCRIPTION

Uncategorized Inorganic Particulates

MATRIX CODE

3119

SITE FINAL FORM IDC

Waste Matrix Code Group

Solidified Inorganics

Site Matrix Description

This waste stream was previously named "Particulate-Sludge/TRU Mixed (2)." IDC No. 044, 050, 092, 099, 159, 289, 290, 332, 340, 422, and 423. This waste was generated from plutonium recovery operations in Building 771. The waste consists of low-purity oxide heel (IDC 289), incineration sludge (IDC 292), miscellaneous sludge (IDC 299), sludge from size reduction area (IDC 340), grit (IDC 372), soot (IDC 422), and soot heel (IDC 423). The waste is packaged in 55-gallon drums with multiple bag liners. Inventory data include mixed residues in these IDCs. IDC 044 - AM and Misc. Oxide.

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒ ☐ ☐ ☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒ ☐ ☐ ☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒ ☐ ☐ ☐ ☐ ☐ ☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☒ ☐ ☐ ☐ ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RF

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RF

RF-W076

CONTAINER:

Drum

Type/Size: 55-gallon

Container Matl: metal

Int. Vol/Ctr: 0.208 m³

Liner Type: rigid

Liner Material: HDPE

Number Stored: 0

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

TYPICAL ISOTOPIC COMPOSITION

Material Parameters

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulose | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | 0.0 | 0.0 |
| Packaging Material, Plastic | 0.0 | 0.0 | 0.0 |

| Protected | Final Form |
|------------------|------------------------|
| End of 1992: 0.0 | 0.0 m ³ |
| End of 1993: 0.0 | 0.0 m ³ |
| 1994: 0.0 | 0.0 m ³ /yr |
| 1995: 0.0 | 0.0 m ³ /yr |
| 1996: 0.0 | 0.0 m ³ /yr |
| 1997: 0.0 | 0.0 m ³ /yr |
| 1998-2002: 0.0 | 0.0 m ³ /yr |
| 2003-2022: 0.0 | 0.0 m ³ /yr |

TYPICAL EPA CODES APPLICABLE

D001C

D002

D003

D006A

D007A

D008A

F001

F002

F002

F005A

Comments

Final waste form volume included in other waste forms as REP output.
No isotopic data available.

Footnotes

1. The inventory for this waste stream contains mixed residues (17.39 m³ in 1992 and 15.91 m³ in 1993) in addition to the mixed waste inventory described above. This residue stream will be processed through the Rocky Flats Residue Elimination Program which will generate several WIPP VAC certifiable waste streams as defined in the "Conceptual Design Report for Residue Elimination at Rocky Flats" (EG&G Rocky Flats, 1994). Volume changes, waste stream changes, and processing schedules for residues are defined in this document.
2. No isotopic information is available.

HANFORD SITE (RL) WASTE STREAM PROFILE METHODOLOGY

APPROACH

The approach used in preparing the RL waste stream profiles is as follows:

- Waste is divided between "past practice waste" (1970 through 1986) and currently-generated waste (1987 through 2028). Currently-generated waste includes projected waste generation.
- Past practice waste is grouped by generators, whereas currently-generated waste is grouped by waste matrix. The reasons for grouping the data in this manner are as follows: 1) the interim storage practice was changed from below ground surface (trenches) to above surface (storage buildings) in the 1986/1987 time period; 2) the By-Product Rule was issued by DOE on May 1, 1987, which compelled the hazardous components of TRU waste to be regulated by EPA under RCRA; 3) more detailed matrix information per container has been collected from the generator since 1987, and stored in the site's record waste tracking system; and 4) starting approximately 1986, waste generators began packaging the waste in accordance with the WIPP Waste Acceptance Criteria, thus reducing the need for additional waste processing prior to shipping to WIPP.
- Currently-generated waste streams were identified by reviewing each container record in the site's solid waste tracking system. Groups of containers that have similar physical characteristics and chemical contaminants (mixed only) were placed into a treatability group waste stream. The waste was then separated into drums, boxes, and RH canisters.

ASSUMPTIONS

The following assumptions were made by the site in repackaging the waste into the final waste form:

1. General

- A. A portion of the thermocouple assemblies, transfer pumps, mixing pumps, and other equipment in the single-shell and double-shell tanks will be removed, size-reduced, decontaminated, and assayed. Assay information will be used to designate the waste packages as low-level waste or TRU waste. The projection is that 10% of the equipment will be designated as RH-TRU, mixed waste and 90% will be designated as remote-handled, low level mixed waste. (WHC-EP 0768, Solid Waste 30-Year Volume Summary, p. 4-6, Table 4-1)
- B. TRU waste forecast volume data has been provided from the following off-site waste generators: AL, AE, BCL, LB, LL, and Santa Susana Field Laboratory (Rockwell, Canoga Park). The assumption is that TRU waste from these off-site waste generators will be received at RL for treatment in the Waste Receiving and Processing Facility (WRAP) and shipment to WIPP. (WHC-EP-0768, Solid Waste 30-Year Volume Summary)

HANFORD SITE (RL)
WASTE STREAM PROFILE METHODOLOGY (continued)

C. RH-TRU Waste

- Approximately 149 m³ of the TRU waste in drums and boxes stored in trenches, approximately 24 m³ of the TRU waste in 1-, 2-, and 5-gallon cans stored in alpha caissons, and approximately 140 m³ of irradiated material in drums, boxes and casks stored in trenches received prior to CY 1994 will be classified as RH-TRU waste when it is processed through the WRAP facility.
- No volume reduction is projected due to size reduction for transport in RH canisters.
- A small amount of CH-TRU (2.0E+2 m³) is expected to be retrieved and packaged as RH-TRU waste.

3. Newly-generated TRU waste

A. This waste will be generated during the fiscal years 1994 through 2013.

B. CH-TRU Waste

- One hundred percent of the waste in drums will be managed as TRU waste with 10% considered noncertifiable and requiring treatment.
- All boxed waste (except waste in SWBs) will require size reduction in the WRAP facility.

C. RH-TRU Waste

- Newly-generated RH-TRU waste will be stored in shielded drums pending repackaging in RH-canisters in the WRAP facility.
- RH-TRU waste retrieved from the 618-11 burial ground will include some soil surrounding breached containers. It is assumed that this soil will increase the waste volume to be retrieved by 25%. No volume reduction is projected for treatment in the WRAP facility.
- A portion of the single-shell and double-shell tank equipment will be size-reduced and decontaminated, assayed, and shipped to WIPP as RH-TRU waste. The assumption is the 90% of the equipment will be classified as remote-handled, low level mixed waste and 10% will be RH-TRU, mixed waste.
- Most of the waste generated between 1987 and 1993 is debris waste. As such, projected RH-TRU waste is assumed to be debris waste.
- The mixed waste contaminants and radionuclide composition of projected RH-TRU waste are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|-----------|--|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Inorganic Debris with Mercury |
| | WIPP ID | RL-M001 | | |
| | Local ID | RL-TB-001 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various process and support operations from the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 073 | | |
| Waste Matrix Code Group | | | Uncategorized Metal | |
| Site Matrix Description | | | This waste stream consists primarily of Inorganic debris. Some of the containers contain organic debris (Plastic and cellulose). The hazardous constituents are metals, including Mercury. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RL

RL-M001

CONTAINER: Standard Waste Box

Container Mat: steel

Liner Type: bag

Number Stored:

Type/Size:

Int. Vol/Ctnr: 1.9 m3

Liner Material: plastic

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 198.8 | 0.0 | 248.5 |
| Aluminum-Based Metals/Alloys | 49.7 | 0.0 | 248.5 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 2.1 | 2.1 | 2.1 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 13.5 | 13.5 | 13.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 7.1 | 7.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.2 | 0.2 m3/yr |
| 1996: | 0.1 | 0.1 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 48.2 | 48.2 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.81E-02 Curies/m3 |
| Pu239 | 6.22E-01 Curies/m3 |
| Pu240 | 1.40E-01 Curies/m3 |
| Pu241 | 3.73E+00 Curies/m3 |
| Pu242 | 8.14E-06 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D006

D009

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE ☐ MTRU

HANDLING ☐ CH

GENERATOR SITE ☐ RL

| | | | | |
|--------------------------------|----------|-----------|--|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Inorganic Debris Metals without Mercury |
| | WIPP ID | RL-M002 | | |
| | Local ID | RL-TB-002 | | |
| MATRIX CODE | | | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various process and support operations from the fuel reprocessing plant (PUREX) and the Plutonium Refinishing Plant. |
| SITE FINAL FORM IDC | | 073 | | |
| Waste Matrix Code Group | | | Uncategorized Metal | |
| Site Matrix Description | | | This waste stream consists primarily of Inorganic metal debris. Some of the containers contain organic debris (Plastic, rubber, cellulose). The hazardous constituents are metals. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐

TRUCON CODE ☐

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒

Non-Defense TRU Waste ☐

Commercial TRU Waste ☐

Unknown ☐

Mixed TRU ☒

Non-Mixed TRU ☐

Suspect Mixed TRU ☐

Unknown ☐

Research and Devel. Waste ☒

Operations Waste ☒

Residues ☐

Decon and Decommissioning ☐

Environmental Restoration ☐

From Treatment of Waste ☐

Maintenance ☐

TSCA Asbestos ☐

PCBs ☐

Other ☐

N/A ☒

Unknown ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-M002

CONTAINER: Standard Waste Box

Type/Size:

Container Matl: steel

Liner Type: bag

Number Stored:

Int. Vol/Ctnr: 1.9 m3

Liner Material: plastic

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 91.4 | 3.3 | 403.8 |
| Aluminum-Based Metals/Alloys | 22.9 | 3.3 | 403.8 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 14.7 | 1.1 | 54.1 |
| Rubber | 0.2 | 0.2 | 0.2 |
| Plastics | 17.9 | 4.6 | 89.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.9 | 0.9 | 0.9 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 11.3 | 11.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.3 | 0.3 m3/yr |
| 1996: | 0.1 | 0.1 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 76.4 | 76.4 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.48E-02 Curies/m3 |
| Pu239 | 5.10E-01 Curies/m3 |
| Pu240 | 1.14E-01 Curies/m3 |
| Pu241 | 3.06E+00 Curies/m3 |
| Pu242 | 6.67E-06 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008

Comments

End of 92 volumes not compiled.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE ☐ MTRU

HANDLING ☐ CH

GENERATOR SITE ☐ RL

| | | | | |
|--------------------------------|----------|-----------|--|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Inorganic Debris Metal with Corrosives |
| | WIPP ID | RL-M003 | | |
| | Local ID | RL-TB-003 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various process and support operations from the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 073 | | |
| Waste Matrix Code Group | | | Uncategorized Metal | |
| Site Matrix Description | | | This waste stream consists primarily of Inorganic debris. Some of the containers contain organic debris (plastic, cellulose, rubber). The hazardous constituents are corrosives. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐

TRUCON CODE ☐

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
☐
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☒
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-M003

CONTAINER: Standard Waste Box

Type/Size:

Container Matl: steel

Liner Type: bag

Number Stored:

Int. Vol/Ctnr: 1.9 m3

Liner Material: plastic

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 171.4 | 0.0 | 214.2 |
| Aluminum-Based Metals/Alloys | 42.8 | 0.0 | 214.2 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 1.1 | 1.1 | 1.1 |
| Rubber | 1.0 | 1.0 | 1.0 |
| Plastics | 27.4 | 27.4 | 27.4 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 3.2 | 3.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.1 | 0.1 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 21.2 | 21.2 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 5.90E-03 Curies/m3 |
| Pu239 | 2.03E-01 Curies/m3 |
| Pu240 | 4.55E-02 Curies/m3 |
| Pu241 | 1.21E+00 Curies/m3 |
| Pu242 | 2.65E-06 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002

Comments

End of 92 volumes not compiled.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL**

| | | | | |
|--------------------------------|----------|--|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Heterogeneous Debris (State Only) |
| | WIPP ID | RL-M004 | | |
| | Local ID | RL-TB-004 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various research, process, and support operations from Pacific Northwest Laboratories and the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 001 | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | This waste stream consists primarily of Heterogeneous debris (filters). Some of the containers contain organic debris (Plastic). The waste is hazardous by State regulation. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL**

RL-M004

CONTAINER: **Standard Waste Box**

Type/Size:

Container Matl: **steel**

Liner Type: **bag**

Number Stored:

Int. Vol/Ctnr: **1.9**m3

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 2.9 | 1.2 | 5.9 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 4.2 | 4.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.1 | 0.1 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 28.3 | 28.3 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Co60 | 1.00E-04 | Curies/m3 |
| Np237 | 3.50E-06 | Curies/m3 |
| Pu239 | 4.29E-01 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

End of 92 volumes not compiled.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL, KERR MCGEE**

| | | | | |
|--------------------------------|----------|--|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Homogeneous Solids W/ Merc. |
| | WIPP ID | RL-M005 | | |
| | Local ID | RL-TB-005 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various research, process, and support operations from Pacific Northwest Laboratories, Kerr McGee, and the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 071 | | |
| Waste Matrix Code Group | | Solidified Inorganics | | |
| Site Matrix Description | | This waste stream consists primarily of Homogeneous solids. Some of the containers contain organic debris (Plastic, cellulose). The hazardous constituents vary and include metals including mercury, ignitables, corrosives, and/or reactives, and PCBs | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL, KERR MCGEE**

RL-M005

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 27.3 | 7.2 | 57.7 |
| Rubber | 0.4 | 0.4 | 0.4 |
| Plastics | 18.8 | 4.6 | 37.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 1.5 | 1.5 m3 |
| 1994: | 1.5 | 1.5 m3/yr |
| 1995: | 1.4 | 1.4 m3/yr |
| 1996: | 2.2 | 2.2 m3/yr |
| 1997: | 1.2 | 1.2 m3/yr |
| 1998-2002: | 4.8 | 4.8 m3/yr |
| 2003-2022: | 9.9 | 9.9 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Am241 | 2.40E-03 | Curies/m3 |
| Cm244 | 8.09E-03 | Curies/m3 |
| Cs137 | 1.00E-04 | Curies/m3 |
| Pu238 | 2.16E-03 | Curies/m3 |
| Ru106 | 5.30E-03 | Curies/m3 |
| Pu239 | 7.43E-02 | Curies/m3 |
| Pu240 | 1.67E-02 | Curies/m3 |
| Pu241 | 4.46E-01 | Curies/m3 |
| Pu242 | 9.72E-07 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D001
D002
D009

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL, KERR MCGEE**

| | | | | |
|--------------------------------|----------|-----------|---|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Inorg. Homogeneous Solids w/out Merc. |
| | WIPP ID | RL-M006 | | |
| | Local ID | RL-TB-006 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various research, process, and support operations from the fuel reprocessing plant (PUREX), Kerr McGee, and the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 071 | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | This waste stream consists primarily of inorganic homogeneous solids. Some of the containers contain organic debris (rubber, cellulose). The hazardous constituents are organics. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL, KERR MCGEE**

RL-M006

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 14.7 | 0.0 | 18.4 |
| Aluminum-Based Metals/Alloys | 3.7 | 0.0 | 18.4 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 33.7 | 8.6 | 83.8 |
| Rubber | 28.3 | 5.5 | 91.4 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 1.6 | 1.6 m3 |
| 1994: | 1.7 | 1.7 m3/yr |
| 1995: | 1.5 | 1.5 m3/yr |
| 1996: | 2.4 | 2.4 m3/yr |
| 1997: | 1.3 | 1.3 m3/yr |
| 1998-2002: | 5.3 | 5.3 m3/yr |
| 2003-2022: | 11.0 | 11.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

D001

D019

F003

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 1.45E-02 | Curies/m3 |
| Pu239 | 4.99E-01 | Curies/m3 |
| Pu240 | 1.12E-01 | Curies/m3 |
| Pu241 | 2.99E+00 | Curies/m3 |
| Pu242 | 6.52E-06 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RL

| | | | | |
|--------------------------------|---|-----------|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Soils without Mercury |
| | WIPP ID | RL-M007 | | |
| | Local ID | RL-TB-007 | DESCRIPTION | This waste stream was generated from the cleanup activities of the 201C process facility. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 72 | | |
| Waste Matrix Code Group | Soils | | | |
| Site Matrix Description | This waste stream consist primarily of Soils. Some of the containers contain organic debris (rubber, cellulose, plastic) and inorganic debris (metal). The hazardous constituents are metals. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
☐
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☒
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RL

RL-M007

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 22.8 | 0.5 | 38.8 |
| Aluminum-Based Metals/Alloys | 5.7 | 0.5 | 38.8 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 63.1 | 1.2 | 67.3 |
| Rubber | 20.9 | 1.8 | 210.4 |
| Plastics | 33.1 | 0.6 | 33.6 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 421.0 | 254.3 | 570.8 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 11.9 | 11.9 m3 |
| 1994: | 0.5 | 0.5 m3/yr |
| 1995: | 0.3 | 0.3 m3/yr |
| 1996: | 0.5 | 0.5 m3/yr |
| 1997: | 0.2 | 0.2 m3/yr |
| 1998-2002: | 0.7 | 0.7 m3/yr |
| 2003-2022: | 1.6 | 1.6 m3/yr |

TYPICAL EPA CODES APPLICABLE

D007

D010

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Am241 | 2.48E+00 | Curies/m3 |
| Cs137 | 2.34E-01 | Curies/m3 |
| Pu238 | 3.78E-04 | Curies/m3 |
| Sr90 | 5.38E+00 | Curies/m3 |
| Pu239 | 1.30E-02 | Curies/m3 |
| Pu240 | 2.92E-03 | Curies/m3 |
| Pu241 | 7.79E-02 | Curies/m3 |
| Pu242 | 1.70E-07 | Curies/m3 |
| U234 | 9.98E-04 | Curies/m3 |
| U235 | 1.79E-05 | Curies/m3 |
| U238 | 1.11E-03 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL, KERR MCGEE**

| | | | | |
|--------------------------------|--|-----------|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Inorganic Debris Metals without Mercury |
| | WIPP ID | RL-M008 | | |
| | Local ID | RL-TB-008 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various research, process, and support operations from Kerr McGee, Pacific Northwest Laboratories, the fuel reprocessing plant (PUREX), and the Plutonium Finishing Plant. A volume of 40.02 is non-mixed waste. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 073 | | |
| Waste Matrix Code Group | Uncategorized Metal | | | |
| Site Matrix Description | This waste stream consist primarily of Inorganic debris metals. Some of the containers contain organic debris (plastic, rubber, cellulotics), and soils. The hazardous constituents vary and include metals, and ignitables, corrosives, and/or reactives. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒

Non-Defense TRU Waste ☐

Commercial TRU Waste ☐

Unknown ☐

Mixed TRU ☒

Non-Mixed TRU ☐

Suspect Mixed TRU ☐

Unknown ☐

☒ Research and Devel. Waste

☐ Operations Waste

☐ Residues

☐ Decon and Decommissioning

☐ Environmental Restoration

☐ From Treatment of Waste

☐ Maintenance

☒ TSCA Asbestos

☒ PCBs

☐ Other

☐ N/A

☐ Unknown

☐

☐

☒

☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL, KERR MCGEE**

RL-M008

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 158.4 | 0.1 | 2096.0 |
| Aluminum-Based Metals/Alloys | 39.6 | 0.1 | 524.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 7.5 | 0.5 | 139.0 |
| Rubber | 4.9 | 0.3 | 245.6 |
| Plastics | 24.8 | 1.3 | 750.8 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 2.9 | 0.9 | 48.7 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 48.2 | 48.2 m3 |
| 1994: | 8.2 | 8.2 m3/yr |
| 1995: | 14.7 | 14.7 m3/yr |
| 1996: | 34.3 | 34.3 m3/yr |
| 1997: | 8.9 | 8.9 m3/yr |
| 1998-2002: | 10.1 | 10.1 m3/yr |
| 2003-2022: | 52.4 | 52.4 m3/yr |

TYPICAL EPA CODES APPLICABLE

D002

D006

D007

D008

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Am241 | 2.55E-01 | Curies/m3 |
| Cm244 | 1.23E+00 | Curies/m3 |
| Cs137 | 4.00E-04 | Curies/m3 |
| Np237 | 4.67E-05 | Curies/m3 |
| Pu238 | 5.29E-01 | Curies/m3 |
| Pu239 | 4.59E+00 | Curies/m3 |
| Pu240 | 1.06E+00 | Curies/m3 |
| Pu241 | 3.04E+01 | Curies/m3 |
| Pu242 | 8.78E-05 | Curies/m3 |
| Ra226 | 8.90E-04 | Curies/m3 |
| U234 | 6.51E-05 | Curies/m3 |
| U235 | 6.66E-05 | Curies/m3 |
| U238 | 2.23E-06 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL, KERR MCGEE**

| | | | | |
|--------------------------------|----------|--|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Organic Debris with corrosives |
| | WIPP ID | RL-M009 | | |
| | Local ID | RL-TB-009 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various research, process, and support operations from Kerr McGee, the fuel reprocessing plant (PUREX), and the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 074 | | |
| Waste Matrix Code Group | | Combustible | | |
| Site Matrix Description | | This waste stream consists primarily of Organic debris. Some of the containers contain inorganic debris (metals) and soils. The hazardous constituents are corrosives. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
☐
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☒
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL, KERR MCGEE**

RL-M009

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.1 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.1 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 1.7 | 0.0 | 96.1 |
| Rubber | 0.4 | 0.0 | 28.7 |
| Plastics | 0.4 | 0.0 | 28.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.5 | 0.0 | 48.1 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 19.2 | 19.2 m3 |
| 1994: | 0.5 | 0.5 m3/yr |
| 1995: | 0.4 | 0.4 m3/yr |
| 1996: | 0.7 | 0.7 m3/yr |
| 1997: | 0.4 | 0.4 m3/yr |
| 1998-2002: | 1.4 | 1.4 m3/yr |
| 2003-2022: | 11.6 | 11.6 m3/yr |

TYPICAL EPA CODES APPLICABLE

D002

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 5.09E-01 | Curies/m3 |
| Pu239 | 1.81E+01 | Curies/m3 |
| Pu240 | 4.06E+00 | Curies/m3 |
| Pu241 | 1.05E+02 | Curies/m3 |
| Pu242 | 2.29E-04 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE ☐ MTRU

HANDLING ☐ CH

GENERATOR SITE ☐ RL

| | | | | |
|--------------------------------|-----------------|---|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Organic Debris with Mercury |
| | WIPP ID | RL-M010 | | |
| | Local ID | RL-TB-010 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of the various process and support operations from the fuel reprocessing plant (PUREX) and Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 074 | | |
| Waste Matrix Code Group | | Combustible | | |
| Site Matrix Description | | This waste stream consists primarily of Organic debris. Some of the containers contain inorganic debris (metals, including mercury), and soils. The hazardous constituents are metals including mercury and ignitables, corrosives, and/or reactives. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐

TRUCON CODE ☐

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☒
 Non-Defense TRU Waste ☐
 Commercial TRU Waste ☐
 Unknown ☐

Mixed TRU ☒
 Non-Mixed TRU ☐
 Suspect Mixed TRU ☐
 Unknown ☐

☒ Research and Devel. Waste
☐ Operations Waste
☐ Residues
☐ Decon and Decommissioning
☐ Environmental Restoration
☐ From Treatment of Waste
☐ Maintenance

TSCA Asbestos ☐
 PCBs ☐
 Other ☐
 N/A ☒
 Unknown ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-M010

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 14.8 | 4.8 | 32.6 |
| Aluminum-Based Metals/Alloys | 3.7 | 0.0 | 32.6 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 2.6 | 1.4 | 3.8 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 51.8 | 39.7 | 65.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 2.4 | 2.4 | 2.4 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.4 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.3 | 0.3 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Am241 | 6.86E-04 | Curies/m3 |
| Pu238 | 3.34E-01 | Curies/m3 |
| Pu239 | 1.15E+01 | Curies/m3 |
| Pu240 | 2.57E+00 | Curies/m3 |
| Pu241 | 6.88E+01 | Curies/m3 |
| Pu242 | 1.50E-04 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002

D006

D009

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|-----------|---|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Organic Debris Metals without Mercury |
| | WIPP ID | RL-M011 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various process and support operations from the fuel reprocessing plant (PUREX) and the Plutonium Finishing Plant. |
| | Local ID | RL-TB-011 | | |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 74 | | |
| Waste Matrix Code Group | | | Combustible | |
| Site Matrix Description | | | This waste stream consists primarily of Organic debris. Some of the containers contain inorganic debris (metals) and soils. The hazardous constituents are metals including mercury and ignitables, corrosives, and/or reactives. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|---|
| X |
| |
| |
| |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|---|
| X |
| |
| |
| |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|---|
| X |
| X |
| |
| |
| |
| |
| |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| |
|---|
| |
| |
| |
| X |
| |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-M011

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Mat: **steel**
Int. Vol/Ctnr: **0.208**m3

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 47.9 | 2.3 | 200.0 |
| Aluminum-Based Metals/Alloys | 12.0 | 2.4 | 200.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 25.4 | 2.4 | 96.2 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 50.9 | 21.7 | 155.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 31.4 | 26.0 | 101.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.8 | 0.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.1 | 0.1 m3/yr |
| 2003-2022: | 0.5 | 0.5 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 3.47E-01 | Curies/m3 |
| Pu239 | 1.19E+01 | Curies/m3 |
| Pu240 | 2.68E+00 | Curies/m3 |
| Pu241 | 7.15E+01 | Curies/m3 |
| Pu242 | 1.56E-04 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D001
D002
D007
D008

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|---|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Organic Debris contaminated w/Organics |
| | WIPP ID | RL-M012 | | |
| | Local ID | RL-TB-012 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various process and support operations from the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 074 | | |
| Waste Matrix Code Group | | Combustible | | |
| Site Matrix Description | | This waste stream consists primarily of Organic debris. Some of the containers contain inorganic debris (metals) and soils. The hazardous constituents are metals including mercury and organics. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|---|
| X |
| |
| |
| |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|---|
| X |
| |
| |
| |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|---|
| X |
| X |
| |
| |
| |
| |
| |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| |
|---|
| |
| |
| |
| X |
| |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-M012

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Mat: **steel**
Int. Vol/Ctnr: **0.208** m3

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 125.7 | 0.0 | 157.1 |
| Aluminum-Based Metals/Alloys | 31.4 | 0.0 | 157.1 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 5.7 | 5.7 | 5.7 |
| Rubber | 119.1 | 119.1 | 119.1 |
| Plastics | 76.2 | 76.2 | 76.2 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 28.6 | 28.6 | 28.6 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.1 | 0.1 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Am241 | 4.06E-01 | Curies/m3 |
| Pu238 | 1.88E-01 | Curies/m3 |
| Pu239 | 6.54E+00 | Curies/m3 |
| Pu240 | 1.45E+00 | Curies/m3 |
| Pu241 | 3.87E+01 | Curies/m3 |
| Pu242 | 8.44E-05 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D019

Comments

End of 92 volumes not compiled.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RL, PNL

| | | | | |
|--------------------------------|----------|--|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Organic Debris/Contaminated w/Organics |
| | WIPP ID | RL-M013 | | |
| | Local ID | RL-TB-013 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various research, process, and support operations from Pacific Northwest Laboratories (through the 340 building loading facility) and the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 074 | | |
| Waste Matrix Code Group | | Combustible | | |
| Site Matrix Description | | This waste stream consists primarily of Organic debris. Some of the containers contain inorganic debris (metals) and soils. The hazardous constituents are organics. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
☐
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☒
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL**

RL-M013

CONTAINER: **Drum**

Container Matl: **steel**

Liner Type: **rigid**

Number Stored:

Type/Size: **55-gallon**

Int. Vol/Ctnr: **0.208 m3**

Liner Material: **HDPE**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 69.7 | 38.8 | 144.2 |
| Aluminum-Based Metals/Alloys | 17.4 | 0.0 | 144.2 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 11.7 | 1.1 | 19.2 |
| Rubber | 28.2 | 4.8 | 72.1 |
| Plastics | 81.5 | 7.2 | 177.9 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 15.7 | 4.8 | 27.4 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.6 | 0.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.4 | 0.4 m3/yr |

TYPICAL EPA CODES APPLICABLE

D019

F001

F002

F003

F004

F005

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Am241 | 4.15E-01 | Curies/m3 |
| Ce144 | 6.10E-03 | Curies/m3 |
| Cs134 | 3.00E-03 | Curies/m3 |
| Cs137 | 3.68E-02 | Curies/m3 |
| Eu152 | 1.60E-01 | Curies/m3 |
| Eu154 | 3.04E-01 | Curies/m3 |
| Eu155 | 4.64E-02 | Curies/m3 |
| Pu238 | 3.37E-01 | Curies/m3 |
| Pu239 | 6.07E+00 | Curies/m3 |
| Pu240 | 1.36E+00 | Curies/m3 |
| Pu241 | 4.23E+01 | Curies/m3 |
| Pu242 | 7.87E-05 | Curies/m3 |
| Ru106 | 1.20E-03 | Curies/m3 |
| Sr90 | 6.70E-03 | Curies/m3 |
| Ta182 | 6.00E-04 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE ☐ MTRU

HANDLING ☐ CH

GENERATOR SITE RL

| | | | | |
|--------------------------------|----------|--|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Leaded Gloves/Aprons with Mercury |
| | WIPP ID | RL-M014 | | |
| | Local ID | RL-TB-014 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various process and support operations from the fuel reprocessing plant (PUREX) and the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 075 | | |
| Waste Matrix Code Group | | Combustible | | |
| Site Matrix Description | | This waste stream consists primarily of leaded gloves/aprons. Some of the containers contain inorganic debris (metals, including mercury), organic debris (plastic, rubber, cellulose), and soils. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
☐
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☒
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-M014

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 78.8 | 0.1 | 336.6 |
| Aluminum-Based Metals/Alloys | 19.7 | 0.1 | 336.6 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 2.2 | 0.1 | 19.2 |
| Rubber | 100.8 | 27.6 | 211.2 |
| Plastics | 28.9 | 1.3 | 74.1 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 42.7 | 4.2 | 134.5 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 4.6 | 4.6 m3 |
| 1994: | 0.1 | 0.1 m3/yr |
| 1995: | 0.1 | 0.1 m3/yr |
| 1996: | 0.2 | 0.2 m3/yr |
| 1997: | 0.1 | 0.1 m3/yr |
| 1998-2002: | 0.3 | 0.3 m3/yr |
| 2003-2022: | 2.8 | 2.8 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Am241 | 6.41E-02 | Curies/m3 |
| Ce144 | 6.10E-03 | Curies/m3 |
| Pu238 | 1.87E-01 | Curies/m3 |
| Pu239 | 6.41E+00 | Curies/m3 |
| Pu240 | 1.44E+00 | Curies/m3 |
| Pu241 | 3.84E+01 | Curies/m3 |
| Pu242 | 8.30E-05 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002
D005
D006
D007
D008
D009

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL**

| | | | | |
|--------------------------------|----------|--|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Leaded Gloves/Aprons Metals w/out Merc. |
| | WIPP ID | RL-M015 | | |
| | Local ID | RL-TB-015 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various research, process and support operations from the Pacific Northwest Laboratories, the fuel reprocessing plant (PUREX), and the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 075 | | |
| Waste Matrix Code Group | | Combustible | | |
| Site Matrix Description | | This waste stream consists primarily of leaded gloves/aprons. Some of the containers contain inorganic debris (metals, without mercury), organic debris (plastic, rubber, cellulose), and soils. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
☐
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☒
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL**

RL-M015

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid
Liner Material: HDPE

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 118.9 | 0.0 | 1048.3 |
| Aluminum-Based Metals/Alloys | 29.7 | 0.0 | 1048.3 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 9.6 | 0.0 | 65.3 |
| Rubber | 77.2 | 1.5 | 201.8 |
| Plastics | 55.9 | 3.6 | 302.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 14.4 | 2.2 | 92.9 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 15.1 | 15.1 m3 |
| 1994: | 0.4 | 0.4 m3/yr |
| 1995: | 0.3 | 0.3 m3/yr |
| 1996: | 0.5 | 0.5 m3/yr |
| 1997: | 0.3 | 0.3 m3/yr |
| 1998-2002: | 1.1 | 1.1 m3/yr |
| 2003-2022: | 9.1 | 9.1 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 6.48E-02 Curies/m3 |
| Pu238 | 3.10E-01 Curies/m3 |
| Pu239 | 1.01E+01 Curies/m3 |
| Pu240 | 2.27E+00 Curies/m3 |
| Pu241 | 6.06E+01 Curies/m3 |
| Pu242 | 1.36E-04 Curies/m3 |
| Ra226 | 1.64E-02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002
D005
D006
D007
D008

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|---|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Leaded Gloves/Aprons Metals/Org w/o Merc |
| | WIPP ID | RL-M016 | | |
| | Local ID | RL-TB-016 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various process and support operations from the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 075 | | |
| Waste Matrix Code Group | | Combustible | | |
| Site Matrix Description | | This waste stream consists primarily of Leaded gloves/aprons. some of the containers contain inorganic debris (metals), organic debris (plastic, rubber, cellulose), and soils. The hazardous constituents are metals and organics. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
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☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
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☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
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TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-M016

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 96.0 | 2.4 | 257.2 |
| Aluminum-Based Metals/Alloys | 24.0 | 2.4 | 257.2 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 29.3 | 2.4 | 86.6 |
| Rubber | 125.2 | 48.1 | 197.1 |
| Plastics | 66.3 | 38.5 | 115.4 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 37.9 | 16.2 | 72.1 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 1.7 | 1.7 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.1 | 0.1 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.1 | 0.1 m3/yr |
| 2003-2022: | 1.0 | 1.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Am241 | 1.32E+00 | Curies/m3 |
| Pu238 | 5.77E-01 | Curies/m3 |
| Pu239 | 1.03E+01 | Curies/m3 |
| Pu240 | 2.30E+00 | Curies/m3 |
| Pu241 | 7.84E+01 | Curies/m3 |
| Pu242 | 1.33E-04 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D007

D008

D019

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|--|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Organic Labpacks |
| | WIPP ID | RL-M017 | | |
| | Local ID | RL-TB-017 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various process and support operations from the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 076 | | |
| Waste Matrix Code Group | | Solidified Organics | | |
| Site Matrix Description | | This waste stream consists primarily of organic labpacks. Some of the containers contain inorganic debris (metals), organic debris (plastic, cellulose). | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
☐
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
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TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
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☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-M017

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 42.9 | 42.9 | 42.9 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 46.4 | 46.4 | 46.4 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 83.2 | 83.2 | 83.2 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.3 | 0.3 m3 |
| 1994: | 0.1 | 0.1 m3/yr |
| 1995: | 0.6 | 0.6 m3/yr |
| 1996: | 0.3 | 0.3 m3/yr |
| 1997: | 0.1 | 0.1 m3/yr |
| 1998-2002: | 0.2 | 0.2 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.89E-03 Curies/m3 |
| Pu239 | 6.48E-02 Curies/m3 |
| Pu240 | 1.45E-02 Curies/m3 |
| Pu241 | 3.88E-01 Curies/m3 |
| Pu242 | 8.47E-07 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D001

F003

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE ☐ MTRU

HANDLING ☐ CH

GENERATOR SITE ☐ RL

| | | | | |
|--------------------------------|----------|-----------|---|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Organic Labpacks (State Only) |
| | WIPP ID | RL-M018 | | |
| | Local ID | RL-TB-018 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various process and support operations from the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 076 | | |
| Waste Matrix Code Group | | | Solidified Organics | |
| Site Matrix Description | | | This waste stream consists primarily of Organic labpacks. Some of the containers contain organic debris (plastic, cellulotics). The waste is hazardous by state regulation. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT ☐

TRUCON CODE ☐

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|---------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input checked="" type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-M018

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Mat: **steel**

Liner Type: **rigid**

Number Stored:

Int. Vol/Ctnr: **0.208 m3**

Liner Material: **HDPE**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 17.8 | 8.6 | 26.9 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 100.9 | 18.9 | 121.1 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 32.6 | 32.6 | 32.6 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 1.9 | 1.9 m3 |
| 1994: | 0.3 | 0.3 m3/yr |
| 1995: | 4.2 | 4.2 m3/yr |
| 1996: | 1.7 | 1.7 m3/yr |
| 1997: | 0.5 | 0.5 m3/yr |
| 1998-2002: | 1.3 | 1.3 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.99E-02 Curies/m3 |
| Pu239 | 6.83E-01 Curies/m3 |
| Pu240 | 1.53E-01 Curies/m3 |
| Pu241 | 4.09E+00 Curies/m3 |
| Pu242 | 8.93E-06 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

End of 92 volumes not compiled.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|--|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Elemental Hazardous Metals w/Merc. |
| | WIPP ID | RL-M019 | | |
| | Local ID | RL-TB-019 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various research, process and support operations from the Pacific Northwest Laboratories and the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 077 | | |
| Waste Matrix Code Group | | Lead/Cadmium Metal Waste | | |
| Site Matrix Description | | This waste stream consists primarily of elemental hazardous metals. Some of the containers contain inorganic debris (metals, including mercury), organic debris (plastic, rubber, cellulose), and soils. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
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☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
☐
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☒
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☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-M019

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 55.6 | 0.1 | 182.3 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 14.8 | 0.1 | 54.8 |
| Rubber | 64.1 | 30.2 | 123.8 |
| Plastics | 39.7 | 1.2 | 86.7 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 24.4 | 10.5 | 49.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 1.3 | 1.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Am241 | 1.88E-01 | Curies/m3 |
| Pu238 | 2.09E-01 | Curies/m3 |
| Pu239 | 7.17E+00 | Curies/m3 |
| Pu240 | 1.61E+00 | Curies/m3 |
| Pu241 | 4.30E+01 | Curies/m3 |
| Pu242 | 9.38E-05 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D002
D005
D006
D007
D008
D009

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL**

| | | | | |
|--------------------------------|---|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Elemental Haz. metals w/out Merc. |
| | WIPP ID | RL-M020 | | |
| | Local ID | RL-TB-020 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various research, process and support operations from the 222-S Analytical Laboratory, Pacific Northwest Laboratories, and the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 077 | | |
| Waste Matrix Code Group | Lead/Cadmium Metal Waste | | | |
| Site Matrix Description | This waste stream consists primarily of elemental hazardous metals. Some of the containers contain inorganic debris (metals without mercury), organic debris (plastic, rubber, cellulose), and soils. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
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☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
☐
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL**

RL-M020

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 340.4 | 2.2 | 940.4 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 9.2 | 0.1 | 67.3 |
| Rubber | 30.3 | 11.2 | 121.8 |
| Plastics | 21.2 | 5.8 | 43.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 23.2 | 7.2 | 77.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 1.9 | 1.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.47E-01 Curies/m3 |
| Pu238 | 2.52E-01 Curies/m3 |
| Pu239 | 8.64E+00 Curies/m3 |
| Pu240 | 1.94E+00 Curies/m3 |
| Pu241 | 5.18E+01 Curies/m3 |
| Pu242 | 1.13E-04 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D007

D008

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RL

| | | | | |
|--------------------------------|---|-----------|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Inorganic Debris PCB's w/ Mercury |
| | WIPP ID | RL-M021 | | |
| | Local ID | RL-TB-021 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various process and support operations from the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 073 | | |
| Waste Matrix Code Group | Uncategorized Metal | | | |
| Site Matrix Description | This waste stream consists primarily of Inorganic Debris. Some of the containers contain organic debris (plastic, cellulose). The hazardous constituents include PCB's and mercury. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
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☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
☐
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-M021

CONTAINER: **Standard Waste Box**
Type/Size:

Container Mat: **steel**
Int. Vol/Ctnr: **1.9** m3

Liner Type: **bag**
Liner Material: **plastic**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 175.9 | 60.7 | 268.6 |
| Aluminum-Based Metals/Alloys | 44.0 | 0.0 | 67.1 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 3.3 | 0.0 | 26.6 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 15.9 | 14.5 | 159.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | 0.0 | 0.0 | m3 |
| End of 1993: | 66.6 | 66.6 | m3 |
| 1994: | 0.0 | 0.0 | m3/yr |
| 1996: | 1.6 | 1.6 | m3/yr |
| 1996: | 0.5 | 0.5 | m3/yr |
| 1997: | 0.0 | 0.0 | m3/yr |
| 1998-2002: | 0.0 | 0.0 | m3/yr |
| 2003-2022: | 447.1 | 447.1 | m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 2.82E-02 | Curies/m3 |
| Pu239 | 7.82E-01 | Curies/m3 |
| Pu240 | 1.76E-01 | Curies/m3 |
| Pu241 | 4.69E+00 | Curies/m3 |
| Pu242 | 1.02E-05 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D006
D008
D009

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE RL

| | | | | | |
|--------------------------------|----------|---|--------------------|--|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Leaded Gloves/Aprons PCB's w/Mercury | |
| | WIPP ID | RL-M022 | | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various process and support operations from the Plutonium Finishing Plant. |
| | Local ID | RL-TB-022 | | | |
| MATRIX CODE | | | | | |
| SITE FINAL FORM IDC | | 075 | | | |
| Waste Matrix Code Group | | Combustible | | | |
| Site Matrix Description | | This waste stream consists primarily of leaded gloves/aprons. Some of the containers contain inorganic debris (metal), organic debris (plastic) and hazardous constituents including PCB's and mercury. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
☐
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-M022

CONTAINER: Standard Waste Box
Type/Size:

Container Matl: steel

Liner Type: bag

Number Stored:

Int. Vol/Ctnr: 1.9 m3

Liner Material: plastic

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 229.2 | 0.0 | 286.4 |
| Aluminum-Based Metals/Alloys | 57.3 | 0.0 | 286.4 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 39.0 | 39.0 | 39.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

Comments

End of 92 volumes not compiled.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 3.2 | 3.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.1 | 0.1 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 21.2 | 21.2 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 3.86E-02 | Curies/m3 |
| Pu239 | 1.33E+00 | Curies/m3 |
| Pu240 | 2.98E-01 | Curies/m3 |
| Pu241 | 7.95E+00 | Curies/m3 |
| Pu242 | 1.73E-05 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D006

D008

D009

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|---|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed RCRA Organic Debris with PCB's |
| | WIPP ID | RL-M023 | | |
| | Local ID | RL-TB-023 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various process and support operations from the Plutonium Finishing Plant |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 074 | | |
| Waste Matrix Code Group | | Combustible | | |
| Site Matrix Description | | This waste stream consists primarily of Organic Debris contaminated with PCB's. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
☐
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
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☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-M023

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**
Int. Vol/Ctnr: **0.208**m3

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 13.1 | 13.1 | 13.1 |
| Rubber | 8.3 | 8.3 | 8.3 |
| Plastics | 64.3 | 64.3 | 64.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | 0.0 | 0.0 | m3 |
| End of 1993: | 0.4 | 0.4 | m3 |
| 1994: | 0.0 | 0.0 | m3/yr |
| 1995: | 0.0 | 0.0 | m3/yr |
| 1996: | 0.0 | 0.0 | m3/yr |
| 1997: | 0.0 | 0.0 | m3/yr |
| 1998-2002: | 0.0 | 0.0 | m3/yr |
| 2003-2022: | 0.3 | 0.3 | m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 8.10E-03 | Curies/m3 |
| Pu239 | 2.78E-01 | Curies/m3 |
| Pu240 | 6.24E-02 | Curies/m3 |
| Pu241 | 1.67E+00 | Curies/m3 |
| Pu242 | 3.64E-06 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D001

Comments

End of 92 volumes not compiled.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|-----------|--|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Organic Labpacks w/PCBs |
| | WIPP ID | RL-M024 | | |
| | Local ID | RL-TB-024 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various process and support operations from the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 076 | | |
| Waste Matrix Code Group | | | Solidified Organics | |
| Site Matrix Description | | | This waste stream consists primarily of Organic Labpacks. Some of the containers contain organic debris (plastic, rubber, cellulose), and PCB's. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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|---|
| X |
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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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| X |
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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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| X |
| X |
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TSCA Asbestos
PCBs
Other
N/A
Unknown

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| X |
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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-M024

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Mat: **steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 6.9 | 1.0 | 24.0 |
| Rubber | 0.4 | 0.4 | 0.4 |
| Plastics | 12.8 | 3.6 | 58.2 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.9 | 0.9 | 0.9 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 2.3 | 2.3 m3 |
| 1994: | 0.4 | 0.4 m3/yr |
| 1995: | 5.2 | 5.2 m3/yr |
| 1996: | 2.1 | 2.1 m3/yr |
| 1997: | 0.6 | 0.6 m3/yr |
| 1998-2002: | 1.6 | 1.6 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 6.65E-04 | Curies/m3 |
| Pu239 | 2.29E-02 | Curies/m3 |
| Pu240 | 5.13E-03 | Curies/m3 |
| Pu241 | 1.37E-01 | Curies/m3 |
| Pu242 | 2.99E-07 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D001

Comments

End of 92 volumes not compiled.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE PNL, KERR MCGEE

| | | | | |
|--------------------------------|---|-----------|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Heterogeneous Debris (State Only) |
| | WIPP ID | RL-M031 | | |
| | Local ID | RL-TB-031 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various research, process and support operations from Kerr McGee and the Pacific Northwest Laboratories. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 001 | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | This waste stream consists primarily of Heterogeneous Debris. The waste is hazardous by State regulation. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **PNL, KERR MCGEE**

RL-M031

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 14.3 | 14.3 | 14.3 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.6 | 0.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.4 | 0.4 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 6.07E-03 | Curies/m3 |
| Pu239 | 3.17E-01 | Curies/m3 |
| Pu240 | 9.53E-02 | Curies/m3 |
| Pu241 | 1.38E+00 | Curies/m3 |
| Pu242 | 3.01E-06 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

End of 92 volumes not compiled.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE ☐ MTRU

HANDLING ☐ CH

GENERATOR SITE ☐ PNL

| | | | | |
|--------------------------------|----------|---|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Mixed Inorganic Homogeneous Solids Met/Org |
| | WIPP ID | RL-M032 | | |
| | Local ID | RL-TB-032 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various research, process and support operations from the Pacific Northwest Laboratories. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 071 | | |
| Waste Matrix Code Group | | Solidified Inorganics | | |
| Site Matrix Description | | This waste stream consists primarily of Inorganic Homogeneous Solids (absorbents). Some of the containers contain organic and metal hazardous constituents. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
☐
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☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **PNL**

RL-M032

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**

Liner Type: **rigid**

Number Stored:

Int. Vol/Ctnr: **0.208 m3**

Liner Material: **HDPE**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 77.5 | 77.5 | 77.5 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 98.2 | 98.2 | 98.2 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

End of 92 volumes not compiled.

**STORED TRU WASTE -ESTIMATED
RATES OF WASTE GENERATION**

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | 0.0 | 0.0 | m3 |
| End of 1993: | 0.2 | 0.2 | m3 |
| 1994: | 0.2 | 0.2 | m3/yr |
| 1995: | 0.2 | 0.2 | m3/yr |
| 1996: | 0.3 | 0.3 | m3/yr |
| 1997: | 0.2 | 0.2 | m3/yr |
| 1998-2002: | 0.7 | 0.7 | m3/yr |
| 2003-2022: | 1.4 | 1.4 | m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Am241 | 3.43E-04 | Curies/m3 |
| Cs134 | 3.00E-04 | Curies/m3 |
| Pu239 | 6.22E-06 | Curies/m3 |
| Pu241 | 3.30E-01 | Curies/m3 |
| Sr90 | 1.12E-02 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D001
D002
D007
F003

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **MTRU**

HANDLING **RH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|-----------------|--|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Projected RH-MTRU Waste |
| | WIPP ID | RL-M201 | DESCRIPTION | The waste stream consists of projected mixed TRU waste from 1994 to 2022. By volume, much of the waste is a portion of the thermocouple assemblies, transfer pumps, mixing pumps, and other equipment that will be eventually removed from single-shell and double-shell tanks. |
| | Local ID | RL-TB-201 | | |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | 001 | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | The waste includes failed and obsolete equipment or material including tanks, pumps, agitators, ovens, heaters, hoods, jumpers, and accessories. Some waste will contain wood, plastics, paper, rubber, and soils. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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|---|
| X |
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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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|---|
| X |
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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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| X |
| X |
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TSCA Asbestos
PCBs
Other
N/A
Unknown

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| |
| X |
| |

RL-M201

CONTAINER: RH Canister

Container Matl: Steel

Liner Type:

Number Stored:

Type/Size: RH Canister

Int. Vol/Ctnr: 0.89 m3

Liner Material:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 176.0 | 49.0 | 1052.0 |
| Aluminum-Based Metals/Alloys | 44.0 | 12.0 | 263.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 3.3 | 0.0 | 26.6 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 15.9 | 14.5 | 159.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED
RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 6.8 | 6.8 m3/yr |
| 1998-2002: | 4.0 | 4.0 m3/yr |
| 2003-2022: | 85.0 | 85.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|-----------|
| Pu239 | Curies/m3 |
| Pu240 | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |
| Cs137 | Curies/m3 |
| Ba137m | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Activity for these radionuclides is unknown.

Footnotes

An additional 31,027 m3 of "suspect" mixed RH-TRU waste has been reported by Hanford in the data submittals. Sufficient information is currently unavailable on the processes that are anticipated to generate this waste to ascertain if this waste would be eligible for disposal in WIPP as RH-TRU. Additional information has been requested from Hanford to resolve this issue in Revision 2 of the WTWBIR.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL**

| | | | | |
|--------------------------------|----------|-----------|---|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Non-mixed TRU Inorganic Debris |
| | WIPP ID | RL-T025 | | |
| | Local ID | RL-TB-025 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various research, process and support operations from the Pacific Northwest Laboratories and the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 073 | | |
| Waste Matrix Code Group | | | Uncategorized Metal | |
| Site Matrix Description | | | This waste stream consists primarily of Inorganic Debris. Some of the containers contain organic debris (plastic, rubber, cellulose). | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☒
☐
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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL**

RL-T025

CONTAINER: **Standard Waste Box**
Type/Size:

Container Matl: **steel**
Int. Vol/Ctnr: **1.9 m3**

Liner Type: **bag**
Liner Material: **plastic**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 66.6 | 12.7 | 915.3 |
| Aluminum-Based Metals/Alloys | 16.7 | 12.7 | 915.3 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 7.6 | 1.2 | 62.3 |
| Rubber | 0.7 | 0.7 | 0.7 |
| Plastics | 21.4 | 5.3 | 206.1 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 33.5 | 33.5 m3 |
| 1994: | 5.7 | 5.7 m3/yr |
| 1995: | 10.2 | 10.2 m3/yr |
| 1996: | 23.8 | 23.8 m3/yr |
| 1997: | 6.2 | 6.2 m3/yr |
| 1998-2002: | 7.0 | 7.0 m3/yr |
| 2003-2022: | 36.4 | 36.4 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 5.76E-02 | Curies/m3 |
| Pu239 | 9.39E-01 | Curies/m3 |
| Pu240 | 2.45E-01 | Curies/m3 |
| Pu241 | 8.72E+00 | Curies/m3 |
| Pu242 | 5.00E-05 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

End of 92 volumes not compiled.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL**

| | | | | |
|----------------------------|----------|-----------|--|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Non-mixed TRU Organic Debris |
| | WIPP ID | RL-T026 | | |
| | Local ID | RL-TB-026 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various research, process and support operations from the Pacific Northwest Laboratories and the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 074 | | |
| Waste Matrix Code Group | | | Combustible | |
| Site Matrix Description | | | This waste stream consists primarily of Organic Debris. Some of the containers contain inorganic debris (metal). | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
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☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL**

RL-T026

CONTAINER: Standard Waste Box

Type/Size:

Container Mat: **steel**

Int. Vol/Ctnr: **1.9** m3

Liner Type: **bag**

Liner Material: **plastic**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 47.5 | 45.8 | 689.1 |
| Aluminum-Based Metals/Alloys | 11.9 | 0.0 | 689.1 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 4.6 | 0.1 | 79.9 |
| Rubber | 2.3 | 0.1 | 106.5 |
| Plastics | 19.2 | 0.4 | 390.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 116.1 | 116.1 m3 |
| 1994: | 19.7 | 19.7 m3/yr |
| 1995: | 35.5 | 35.5 m3/yr |
| 1996: | 82.7 | 82.7 m3/yr |
| 1997: | 21.5 | 21.5 m3/yr |
| 1998-2002: | 24.4 | 24.4 m3/yr |
| 2003-2022: | 126.4 | 126.4 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 3.33E-02 Curies/m3 |
| Pu238 | 3.67E-02 Curies/m3 |
| Pu239 | 5.05E-01 Curies/m3 |
| Pu240 | 1.14E-01 Curies/m3 |
| Pu241 | 3.35E+00 Curies/m3 |
| Pu242 | 1.07E-05 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

End of 92 volumes not compiled.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **PNL**

| | | | | |
|--------------------------------|---|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Non-mixed TRU Inorganic Homogeneous Solids |
| | WIPP ID | RL-T027 | | |
| | Local ID | RL-TB-027 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various research, process and support operations from the Pacific Northwest Laboratories. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 071 | | |
| Waste Matrix Code Group | Solidified Inorganics | | | |
| Site Matrix Description | This waste stream consists primarily of inorganic homogeneous solids. Some of the containers contain organic debris (plastic, rubber, cellulose). | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
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TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **PNL**

RL-T027

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Mat: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 27.0 | 4.8 | 153.9 |
| Aluminum-Based Metals/Alloys | 6.8 | 4.8 | 153.9 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 4.5 | 1.4 | 9.6 |
| Rubber | 5.0 | 1.6 | 11.1 |
| Plastics | 12.9 | 7.2 | 50.5 |
| Solidified, Inorganic matrix | 72.0 | 72.0 | 192.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 1.3 | 1.3 m3 |
| 1994: | 66.2 | 66.2 m3/yr |
| 1995: | 130.7 | 130.7 m3/yr |
| 1996: | 147.4 | 147.4 m3/yr |
| 1997: | 72.2 | 72.2 m3/yr |
| 1998-2002: | 65.0 | 65.0 m3/yr |
| 2003-2022: | 107.5 | 107.5 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 9.33E-02 Curies/m3 |
| Co60 | 1.00E-03 Curies/m3 |
| Cs137 | 5.00E-03 Curies/m3 |
| Pu238 | 5.53E-02 Curies/m3 |
| Pu239 | 1.04E+00 Curies/m3 |
| Pu240 | 2.47E-01 Curies/m3 |
| Pu241 | 5.36E+00 Curies/m3 |
| Pu242 | 1.91E-05 Curies/m3 |
| Ra226 | 3.17E-01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

End of 92 volumes not compiled.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL**

| | | | | |
|--------------------------------|----------|-----------|--|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Non-mixed TRU Soils |
| | WIPP ID | RL-T028 | | |
| | Local ID | RL-TB-028 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various research, process and support operations from the Pacific Northwest Laboratories and the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 072 | | |
| Waste Matrix Code Group | | | Soils | |
| Site Matrix Description | | | This waste stream consists primarily of soils. Some of the containers contain organic debris (plastic, rubber, cellulose). | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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|-------------------------------------|
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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| <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> |
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TSCA Asbestos
PCBs
Other
N/A
Unknown

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| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL**

RL-T028

CONTAINER:

Drum

Container Matl: steel

Liner Type: rigid

Number Stored:

Type/Size: 55-gallon

Int. Vol/Ctnr: 0.208 m3

Liner Material: HDPE

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 10.3 | 4.8 | 26.4 |
| Rubber | 1.6 | 1.6 | 1.6 |
| Plastics | 93.7 | 19.2 | 132.2 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 431.0 | 98.6 | 603.4 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | 0.0 | 0.0 | m3 |
| End of 1993: | 0.6 | 0.6 | m3 |
| 1994: | 0.7 | 0.7 | m3/yr |
| 1995: | 67.1 | 67.1 | m3/yr |
| 1996: | 18.0 | 18.0 | m3/yr |
| 1997: | 0.2 | 0.2 | m3/yr |
| 1998-2002: | 36.7 | 36.7 | m3/yr |
| 2003-2022: | 0.1 | 0.1 | m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 6.53E-03 | Curies/m3 |
| Pu239 | 2.24E-01 | Curies/m3 |
| Pu240 | 5.04E-02 | Curies/m3 |
| Pu241 | 1.35E+00 | Curies/m3 |
| Pu242 | 2.93E-06 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

End of 92 volumes not compiled.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL**

| | | | | |
|--------------------------------|----------|---|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Non-mixed Organic Debris |
| | WIPP ID | RL-T029 | | |
| | Local ID | RL-TB-029 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various research, process and support operations from the Pacific Northwest Laboratories and the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 074 | | |
| Waste Matrix Code Group | | Combustible | | |
| Site Matrix Description | | This waste stream consists primarily of Organic Debris. Some of the containers contain inorganic debris (metal) and soil. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL, PNL**

RL-T029

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 17.2 | 0.9 | 519.7 |
| Aluminum-Based Metals/Alloys | 4.3 | 0.9 | 519.7 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 27.2 | 0.0 | 480.8 |
| Rubber | 11.2 | 0.0 | 139.5 |
| Plastics | 28.2 | 1.8 | 456.1 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 7.1 | 0.4 | 192.7 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 367.7 | 367.7 m3 |
| 1994: | 62.7 | 62.7 m3/yr |
| 1995: | 112.8 | 112.8 m3/yr |
| 1996: | 262.6 | 262.6 m3/yr |
| 1997: | 68.2 | 68.2 m3/yr |
| 1998-2002: | 77.5 | 77.5 m3/yr |
| 2003-2022: | 401.5 | 401.5 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Am241 | 2.10E-01 Curies/m3 |
| Cm244 | 1.60E-01 Curies/m3 |
| Cs137 | 1.00E-04 Curies/m3 |
| Np237 | 7.12E-06 Curies/m3 |
| Pu238 | 1.65E-01 Curies/m3 |
| Pu239 | 4.98E+00 Curies/m3 |
| Pu240 | 1.13E+00 Curies/m3 |
| Pu241 | 3.11E+01 Curies/m3 |
| Pu242 | 8.30E-05 Curies/m3 |
| Th232 | 2.98E-08 Curies/m3 |
| U234 | 8.20E-06 Curies/m3 |
| U235 | 2.04E-06 Curies/m3 |
| U238 | 7.63E-06 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

End of 92 volumes not compiled.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RL

| | | | | |
|--------------------------------|---|-----------|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Non-mixed Inorganic Debris with PCBs |
| | WIPP ID | RL-T030 | | |
| | Local ID | RL-TB-030 | DESCRIPTION | This waste stream was generated from the cleanup and maintenance activities of various process and support operations from the Plutonium Finishing Plant. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | 073 | | |
| Waste Matrix Code Group | Uncategorized Metal | | | |
| Site Matrix Description | This waste stream consists primarily of Inorganic Debris. Some of the containers contain organic debris (plastic, cellulose), soils, and PCB's. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T030

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 209.5 | 0.0 | 261.9 |
| Aluminum-Based Metals/Alloys | 52.4 | 0.0 | 261.9 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 23.8 | 23.8 | 23.8 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 52.4 | 52.4 | 52.4 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 9.5 | 9.5 | 9.5 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

**STORED TRU WASTE -ESTIMATED
RATES OF WASTE GENERATION**

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.1 | 0.1 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 1.62E-04 | Curies/m3 |
| Pu239 | 5.57E-03 | Curies/m3 |
| Pu240 | 1.25E-03 | Curies/m3 |
| Pu241 | 3.34E-02 | Curies/m3 |
| Pu242 | 7.29E-08 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

End of 92 volumes not compiled.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|-----------|--|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | 202 A Bldg TRU Waste |
| | WIPP ID | RL-T101 | | |
| | Local ID | RL-TB-101 | DESCRIPTION | This waste stream consists of contact-handled TRU waste from the Fuel Reprocessing Plant using the Plutonium/Uranium Solvent Extraction Process. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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☒

TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T101

CONTAINER: Standard Waste Box

Container Matl: steel

Liner Type: bag

Number Stored:

Type/Size:

Int. Vol/Ctnr: 1.9 m3

Liner Material: plastic

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

**STORED TRU WASTE - ESTIMATED
RATES OF WASTE GENERATION**

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 140.0 | 140.0 m3 |
| End of 1993: | 140.0 | 140.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 4.91E-02 Curies/m3 |
| Pu239 | 1.93E+00 Curies/m3 |
| Pu240 | 4.33E-01 Curies/m3 |
| Pu241 | 4.87E+00 Curies/m3 |
| Pu242 | 2.52E-05 Curies/m3 |
| Am241 | 2.20E-01 Curies/m3 |
| Sr90 | 1.07E-02 Curies/m3 |
| Cs137 | 1.16E-02 Curies/m3 |
| Y90 | 1.07E-02 Curies/m3 |
| Ba137m | 1.10E-02 Curies/m3 |
| U-nat | 1.88E-12 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights of final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T101

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid
Liner Material: HDPE

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

**STORED TRU WASTE -ESTIMATED
RATES OF WASTE GENERATION**

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 230.0 | 310.0 m3 |
| End of 1993: | 230.0 | 310.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 3.61E-02 Curies/m3 |
| Pu239 | 1.42E+00 Curies/m3 |
| Pu240 | 3.19E-01 Curies/m3 |
| Pu241 | 3.59E+00 Curies/m3 |
| Pu242 | 1.86E-05 Curies/m3 |
| Am241 | 1.62E-01 Curies/m3 |
| Sr90 | 7.90E-03 Curies/m3 |
| Cs137 | 8.55E-03 Curies/m3 |
| Y90 | 7.90E-03 Curies/m3 |
| Ba137m | 8.09E-03 Curies/m3 |
| U-nat | 1.38E-12 Curies/m3 |

Comments

Upper and lower weights of final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RL

| | | | | |
|--------------------------------|--|-----------|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | 202-AL Bldg TRU Waste |
| | WIPP ID | RL-T102 | | |
| | Local ID | RL-TB-102 | DESCRIPTION | This waste stream consists of contact-handled TRU waste from the laboratory at the Fuel Reprocessing Plant. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☐
☒
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T102

CONTAINER: **Standard Waste Box**

Type/Size:

Container Matl: **steel**

Liner Type: **bag**

Number Stored:

Int. Vol/Ctnr: **1.9 m3**

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2.5 | 2.5 m3 |
| End of 1993: | 2.5 | 2.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 8.50E-06 Curies/m3 |
| Pu239 | 3.34E-04 Curies/m3 |
| Pu240 | 7.50E-05 Curies/m3 |
| Pu241 | 8.43E-04 Curies/m3 |
| Pu242 | 4.37E-09 Curies/m3 |
| Am241 | 3.81E-05 Curies/m3 |
| Sr90 | 4.60E-02 Curies/m3 |
| Cs137 | 4.92E-02 Curies/m3 |
| Y90 | 4.60E-02 Curies/m3 |
| Ba137m | 4.65E-02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T102

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid
Liner Material: HDPE

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 154.0 | 208.0 m3 |
| End of 1993: | 154.0 | 208.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 4.90E-06 | Curies/m3 |
| Pu239 | 1.92E-04 | Curies/m3 |
| Pu240 | 4.32E-05 | Curies/m3 |
| Pu241 | 4.85E-04 | Curies/m3 |
| Pu242 | 2.53E-09 | Curies/m3 |
| Am241 | 2.19E-05 | Curies/m3 |
| Sr90 | 2.65E-02 | Curies/m3 |
| Cs137 | 2.83E-02 | Curies/m3 |
| Y90 | 2.65E-02 | Curies/m3 |
| Ba137m | 2.68E-02 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|-----------|--|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | 216-Z-9 Retrieved Soil |
| | WIPP ID | RL-T103 | | |
| | Local ID | RL-TB-103 | DESCRIPTION | This waste stream consists of TRU waste from the retrieved contaminated soil from the 216-Z-9 Trench. Soil is contaminated by TRU liquid waste. |
| MATRIX CODE | | 4200 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Soils | |
| Site Matrix Description | | | Waste consists of soil contaminated with TRU solutions. Soil is contained in a 0.3 mm polyethylene bag within an inner container. The outer container is a standard 55-gallon drum. Vermiculite is a packing material between the inner and outer container. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|---|
| X |
| |
| |
| |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|---|
| |
| X |
| |
| |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|---|
| |
| X |
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| |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| |
|---|
| |
| |
| |
| X |
| |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T103

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 324.0 | 162.0 | 324.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 285.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 73.5 | 99.2 m3 |
| End of 1993: | 73.5 | 99.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu242 | 4.57E-04 Curies/m3 |
| Am241 | 3.98E+00 Curies/m3 |
| Pu238 | 8.89E-01 Curies/m3 |
| Pu239 | 3.49E+01 Curies/m3 |
| Pu240 | 7.85E+00 Curies/m3 |
| Pu241 | 8.82E+01 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RL

| | | | | |
|--------------------------------|---|-----------|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | 221-T TRU Waste |
| | WIPP ID | RL-T104 | | |
| | Local ID | RL-TB-104 | DESCRIPTION | This waste stream consists of TRU waste from the T Plant Fuel Reprocessing Plant. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☐
☒
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T104

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

Material Parameters

| | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | 3.7 | 5.0 | m3 |
| End of 1993: | 3.7 | 5.0 | m3 |
| 1994: | 0.0 | 0.0 | m3/yr |
| 1995: | 0.0 | 0.0 | m3/yr |
| 1996: | 0.0 | 0.0 | m3/yr |
| 1997: | 0.0 | 0.0 | m3/yr |
| 1998-2002: | 0.0 | 0.0 | m3/yr |
| 2003-2022: | 0.0 | 0.0 | m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 9.03E-05 | Curies/m3 |
| Pu239 | 3.55E-03 | Curies/m3 |
| Pu240 | 7.97E-04 | Curies/m3 |
| Pu241 | 8.95E-03 | Curies/m3 |
| Pu242 | 4.64E-08 | Curies/m3 |
| Am241 | 4.04E-04 | Curies/m3 |
| Sr90 | 7.69E-05 | Curies/m3 |
| Cs137 | 8.21E-05 | Curies/m3 |
| Y90 | 7.69E-05 | Curies/m3 |
| Ba137m | 7.77E-05 | Curies/m3 |
| U-nat | 1.96E-08 | Curies/m3 |

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|-----------|--|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | 222-S TRU Waste |
| | WIPP ID | RL-T105 | | |
| | Local ID | RL-TB-105 | DESCRIPTION | This waste stream consists of TRU waste from the Chemical Separation Areas Operations Laboratory. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|---|
| X |
| |
| |
| |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|---|
| |
| X |
| |
| |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|---|
| |
| X |
| |
| |
| |
| |
| |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| |
|---|
| |
| |
| |
| X |
| |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RL

RL-T105

CONTAINER: Standard waste box

Container Matl: steel

Liner Type: bag

Number Stored:

Type/Size:

Int. Vol/Ctnr: 1.9 m3

Liner Material: plastic

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 22.1 | 22.1 m3 |
| End of 1993: | 22.1 | 22.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 2.12E-03 | Curies/m3 |
| Pu239 | 8.31E-02 | Curies/m3 |
| Pu240 | 1.87E-02 | Curies/m3 |
| Pu241 | 2.10E-01 | Curies/m3 |
| Pu242 | 1.09E-06 | Curies/m3 |
| Am241 | 9.47E-03 | Curies/m3 |
| Sr90 | 5.12E-03 | Curies/m3 |
| Cs137 | 5.49E-03 | Curies/m3 |
| Y90 | 5.12E-03 | Curies/m3 |
| Ba137m | 5.19E-03 | Curies/m3 |
| U-dep | 2.30E-07 | Curies/m3 |
| U-enr | 8.24E-08 | Curies/m3 |
| U-nat | 2.64E-09 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T105

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 30.7 | 41.4 m3 |
| End of 1993: | 30.7 | 41.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 1.56E-03 | Curies/m3 |
| Pu239 | 6.12E-02 | Curies/m3 |
| Pu240 | 1.37E-02 | Curies/m3 |
| Pu241 | 1.54E-01 | Curies/m3 |
| Pu242 | 8.00E-07 | Curies/m3 |
| Am241 | 6.97E-03 | Curies/m3 |
| Sr90 | 3.77E-03 | Curies/m3 |
| Cs137 | 4.04E-03 | Curies/m3 |
| Y90 | 3.77E-03 | Curies/m3 |
| Ba137m | 3.82E-03 | Curies/m3 |
| U-del | 1.69E-07 | Curies/m3 |
| U-enr | 6.07E-08 | Curies/m3 |
| U-nat | 1.94E-09 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL** WASTE TYPE **TRU** HANDLING **CH** GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|-----------|---|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | 233-S TRU Waste |
| | WIPP ID | RL-T106 | | |
| | Local ID | RL-TB-106 | DESCRIPTION | This waste stream consists of TRU waste from the REDOX Fuel Reprocessing Facility. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT **TRUCON CODE**

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|---------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T106

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 6.0 | 8.1 m3 |
| End of 1993: | 6.0 | 8.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.20E-02 Curies/m3 |
| Pu239 | 4.70E-01 Curies/m3 |
| Pu240 | 1.06E-01 Curies/m3 |
| Pu241 | 1.19E+00 Curies/m3 |
| Pu242 | 6.15E-06 Curies/m3 |
| Am241 | 5.36E-02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|-----------------|--|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | 234-SZ TRU Waste |
| | WIPP ID | RL-T107 | DESCRIPTION | This waste stream consists of TRU waste from the Plutonium Finishing Plant. |
| | Local ID | RL-TB-107 | | |
| MATRIX CODE | 5400 | | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☐
☒
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T107

CONTAINER: Standard waste box

Type/Size:

Container Matl: steel

Liner Type: bag

Number Stored:

Int. Vol/Ctnr: 1.9 m3

Liner Material: plastic

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1690.0 | 1690.0 m3 |
| End of 1993: | 1690.0 | 1690.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 5.43E-02 Curies/m3 |
| Pu239 | 2.13E+00 Curies/m3 |
| Pu240 | 4.79E-01 Curies/m3 |
| Pu241 | 5.38E+00 Curies/m3 |
| Pu242 | 2.79E-05 Curies/m3 |
| Am241 | 2.43E-01 Curies/m3 |
| Sr90 | 1.37E-02 Curies/m3 |
| Cs137 | 1.49E-02 Curies/m3 |
| Y90 | 1.37E-02 Curies/m3 |
| Ba137m | 1.41E-02 Curies/m3 |
| U-dep | 2.07E-06 Curies/m3 |
| U-enr | 9.69E-07 Curies/m3 |
| U-nat | 2.37E-08 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T107

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1890.0 | 2560.0 m3 |
| End of 1993: | 1890.0 | 2560.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 4.04E-02 Curies/m3 |
| Pu239 | 1.59E+00 Curies/m3 |
| Pu240 | 3.57E-01 Curies/m3 |
| Pu241 | 4.01E+00 Curies/m3 |
| Pu242 | 2.08E-05 Curies/m3 |
| Am241 | 1.81E-01 Curies/m3 |
| Sr90 | 1.02E-02 Curies/m3 |
| Cs137 | 1.11E-02 Curies/m3 |
| Y90 | 1.02E-02 Curies/m3 |
| Ba137m | 1.05E-02 Curies/m3 |
| U-dep | 1.54E-06 Curies/m3 |
| U-enr | 7.22E-07 Curies/m3 |
| U-nat | 1.76E-08 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE ☐ TRU

HANDLING ☐ CH

GENERATOR SITE RL

| | | | | |
|--------------------------------|--------------------|---|--------------------|------------------------------|
| WASTE STREAM | MWIR ID | | STREAM NAME | Misc 200 West Area TRU Waste |
| | WIPP ID | RL-T108 | | DESCRIPTION |
| | Local ID | RL-TB-108 | | |
| | MATRIX CODE | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☐
☒

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐

☒

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T108

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 21.0 | 28.3 m3 |
| End of 1993: | 21.0 | 28.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 4.98E-03 | Curies/m3 |
| Pu239 | 1.96E-01 | Curies/m3 |
| Pu240 | 4.40E-02 | Curies/m3 |
| Pu241 | 4.94E-01 | Curies/m3 |
| Pu242 | 2.56E-06 | Curies/m3 |
| Am241 | 2.23E-02 | Curies/m3 |
| Sr90 | 1.86E-03 | Curies/m3 |
| Cs137 | 1.99E-03 | Curies/m3 |
| Y90 | 1.86E-03 | Curies/m3 |
| Ba137m | 1.88E-03 | Curies/m3 |
| U-nat | 7.39E-08 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|--|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | 308 Bldg TRU Waste |
| | WIPP ID | RL-T109 | DESCRIPTION | This waste stream consists of TRU waste from the Fuels Development Laboratory. |
| | Local ID | RL-TB-109 | | |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☒
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T109

CONTAINER: **Standard waste box**
Type/Size:

Container Mat: **steel**
Int. Vol/Ctnr: **1.9 m3**

Liner Type: **bag**
Liner Material: **plastic**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | 6.5 | 6.5 | m3 |
| End of 1993: | 6.5 | 6.5 | m3 |
| 1994: | 0.0 | 0.0 | m3/yr |
| 1995: | 0.0 | 0.0 | m3/yr |
| 1996: | 0.0 | 0.0 | m3/yr |
| 1997: | 0.0 | 0.0 | m3/yr |
| 1998-2002: | 0.0 | 0.0 | m3/yr |
| 2003-2022: | 0.0 | 0.0 | m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 3.48E-03 | Curies/m3 |
| Pu239 | 1.37E-01 | Curies/m3 |
| Pu240 | 3.07E-02 | Curies/m3 |
| Pu241 | 3.45E-01 | Curies/m3 |
| Pu242 | 1.79E-06 | Curies/m3 |
| Am241 | 1.56E-02 | Curies/m3 |
| Sr90 | 3.94E-03 | Curies/m3 |
| Cs137 | 4.30E-03 | Curies/m3 |
| Y90 | 3.94E-03 | Curies/m3 |
| Ba137m | 4.06E-03 | Curies/m3 |
| U-dep | 1.21E-02 | Curies/m3 |
| U-enr | 3.11E-04 | Curies/m3 |
| U-nat | 3.76E-03 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T109

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Liner Type: **rigid**

Number Stored:

Int. Vol/Ctnr: **0.208 m3**

Liner Material: **HDPE**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 6.6 | 8.9 m3 |
| End of 1993: | 6.6 | 8.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 2.57E-03 Curies/m3 |
| Pu239 | 1.01E-01 Curies/m3 |
| Pu240 | 2.27E-02 Curies/m3 |
| Pu241 | 2.55E-01 Curies/m3 |
| Pu242 | 1.32E-06 Curies/m3 |
| Am241 | 1.15E-02 Curies/m3 |
| Sr90 | 2.91E-03 Curies/m3 |
| Cs137 | 3.17E-03 Curies/m3 |
| Y90 | 2.91E-03 Curies/m3 |
| Ba137m | 2.99E-03 Curies/m3 |
| U-dep | 8.90E-03 Curies/m3 |
| U-enr | 2.29E-04 Curies/m3 |
| U-nat | 2.77E-03 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|-----------|---|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | 324 and 325 Bldg Oper TRU Waste |
| | WIPP ID | RL-T110 | | |
| | Local ID | RL-TB-110 | DESCRIPTION | This waste stream consists of contact-handled TRU waste from the Chemical Materials Engineering Laboratory. A volume of 1.74E+1 m3 generated in 1984 is radioactive sources. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. The waste consists of irradiated fuel from R&D activities, both in complete assemblies or pins of irradiated fuel; and irradiated fuel fragments and resultant waste generated from irradiated fuel experiments and/or examinations, such as polishing residue, cutting fluids, absorbents, and metal fines. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T110

CONTAINER: **Standard waste box**
Type/Size:

Container Matl: **steel**
Int. Vol/Ctnr: **1.9 m3**

Liner Type: **bag**
Liner Material: **plastic**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 83.9 | 83.9 m3 |
| End of 1993: | 83.9 | 83.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 8.64E-02 Curies/m3 |
| Pu239 | 3.39E+00 Curies/m3 |
| Pu240 | 7.62E-01 Curies/m3 |
| Pu241 | 8.57E+00 Curies/m3 |
| Pu242 | 4.44E-05 Curies/m3 |
| Am241 | 3.87E-01 Curies/m3 |
| Sr90 | 5.21E-01 Curies/m3 |
| Cs137 | 5.63E-01 Curies/m3 |
| Y90 | 5.21E-01 Curies/m3 |
| Ba137m | 5.33E-01 Curies/m3 |
| U-dep | 3.27E-03 Curies/m3 |
| U-enr | 1.02E-03 Curies/m3 |
| U-nat | 8.52E-04 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T110

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

Upper and lower weights for final waste form are unknown.

**STORED TRU WASTE - ESTIMATED
RATES OF WASTE GENERATION**

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 236.0 | 319.0 m3 |
| End of 1993: | 236.0 | 319.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 6.47E-02 | Curies/m3 |
| Pu239 | 2.54E+00 | Curies/m3 |
| Pu240 | 5.71E-01 | Curies/m3 |
| Pu241 | 6.42E+00 | Curies/m3 |
| Pu242 | 3.33E-05 | Curies/m3 |
| Am241 | 2.90E-01 | Curies/m3 |
| Sr90 | 3.90E-01 | Curies/m3 |
| Cs137 | 4.22E-01 | Curies/m3 |
| Y90 | 3.90E-01 | Curies/m3 |
| Ba137m | 3.99E-01 | Curies/m3 |
| U-dep | 2.45E-03 | Curies/m3 |
| U-enr | 7.66E-04 | Curies/m3 |
| U-nat | 6.39E-04 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|---|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | 325B and 327 Bldg Oper TRU Waste |
| | WIPP ID | RL-T111A | DESCRIPTION | This waste stream (RL-T111A and RL-T111B) consists of typically remote-handled TRU waste from the Shielded Laboratory Annex of the Radiochemistry Building and Post Irradiation Test Laboratory. A volume of 21.1 m3 generated in 1971 is contact-handled waste. |
| | Local ID | RL-TB-111A | | |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste presently in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. The waste presently in boxes typically consists of whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T111A

CONTAINER: **Standard waste box**

Container Matl: **steel**

Liner Type: **bag**

Number Stored:

Type/Size:

Int. Vol/Ctnr: **1.9**m3

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 10.6 | 10.6 m3 |
| End of 1993: | 10.6 | 10.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 3.94E+00 | Curies/m3 |
| Pu239 | 2.47E+01 | Curies/m3 |
| Pu240 | 1.23E+01 | Curies/m3 |
| Pu241 | 7.73E+02 | Curies/m3 |
| Pu242 | 3.52E-04 | Curies/m3 |
| Am241 | 3.11E-07 | Curies/m3 |
| Sr90 | 1.37E+02 | Curies/m3 |
| Cs137 | 1.47E+02 | Curies/m3 |
| Y90 | 1.37E+02 | Curies/m3 |
| Ba137m | 1.39E+02 | Curies/m3 |
| U-dep | 6.32E-03 | Curies/m3 |
| U-enr | 1.02E-01 | Curies/m3 |
| U-nat | 1.15E-04 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU Waste BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **RH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|-----------------|---|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | 325B and 327 Bldg Oper TRU Waste |
| | WIPP ID | RL-T111B | DESCRIPTION | This waste stream (RL-T111A and RL-T111B) consists of typically remote-handled TRU waste from the Shielded Laboratory Annex of the Radiochemistry Building and Post Irradiation Test Laboratory. A volume of 21.1 m3 generated in 1971 is contact-handled waste (ref. RL-T111A). |
| | Local ID | RL-TB-111B | | |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | 001 | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste presently in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. The waste presently in boxes typically consists of whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **RH**

GENERATOR SITE **RL**

RL-T111B

CONTAINER: RH Canister (for drum waste)

Container Matl: **Steel**

Liner Type:

Number Stored:

Type/Size:

Int. Vol/Ctnr: **0.89**m3

Liner Material:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 527.0 | | |
| Packaging Material, Plastic | 26.0 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.83E+00 Curies/m3 |
| Pu239 | 1.15E+01 Curies/m3 |
| Pu240 | 1.15E+01 Curies/m3 |
| Pu241 | 3.60E+02 Curies/m3 |
| Pu242 | 1.64E-04 Curies/m3 |
| Am241 | 1.45E-07 Curies/m3 |
| Sr90 | 6.38E+01 Curies/m3 |
| Cs137 | 6.82E+01 Curies/m3 |
| Y90 | 6.38E+01 Curies/m3 |
| Ba137m | 6.45E+01 Curies/m3 |
| U-dep | 2.94E-03 Curies/m3 |
| U-enr | 4.76E-02 Curies/m3 |
| U-nat | 5.35E-05 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|--|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | 340 Bldg Oper and R&D TRU Waste |
| | WIPP ID | RL-T112 | DESCRIPTION | This waste stream consists of TRU waste from the Retention and Neutralization Facility. |
| | Local ID | RL-TB-112 | | |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T112

CONTAINER: Standard waste box

Type/Size:

Container Matl: steel

Liner Type: bag

Number Stored:

Int. Vol/Ctnr: 1.9 m3

Liner Material: plastic

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 51.5 | 51.5 m3 |
| End of 1993: | 51.5 | 51.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 4.74E-02 Curies/m3 |
| Pu239 | 1.86E+00 Curies/m3 |
| Pu240 | 4.18E-01 Curies/m3 |
| Pu241 | 4.70E+00 Curies/m3 |
| Pu242 | 2.44E-05 Curies/m3 |
| Am241 | 2.12E-01 Curies/m3 |
| Sr90 | 1.21E-01 Curies/m3 |
| Cs137 | 1.29E-01 Curies/m3 |
| Y90 | 1.21E-01 Curies/m3 |
| Ba137m | 1.22E-02 Curies/m3 |
| U-dep | 5.57E-03 Curies/m3 |
| U-enr | 1.12E-02 Curies/m3 |
| U-nat | 1.84E-04 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T112

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 37.0 | 49.9 m3 |
| End of 1993: | 37.0 | 49.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 3.54E-02 | Curies/m3 |
| Pu239 | 1.39E+00 | Curies/m3 |
| Pu240 | 3.13E-01 | Curies/m3 |
| Pu241 | 3.51E+00 | Curies/m3 |
| Pu242 | 1.82E-05 | Curies/m3 |
| Am241 | 1.59E-01 | Curies/m3 |
| Sr90 | 9.02E-02 | Curies/m3 |
| Cs137 | 9.64E-02 | Curies/m3 |
| Y90 | 9.02E-02 | Curies/m3 |
| Ba137m | 9.12E-02 | Curies/m3 |
| U-dep | 4.17E-03 | Curies/m3 |
| U-enr | 8.35E-03 | Curies/m3 |
| U-nat | 1.38E-04 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RL

| | | | | |
|--------------------------------|--|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | 100 Areas and 200 Areas R&D TRU Waste |
| | WIPP ID | RL-T113 | | |
| | Local ID | RL-TB-113 | DESCRIPTION | This waste stream consists of TRU waste from the Biological Laboratory and other R&D Sources in the Reactor and Chemical Separation Areas. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☐
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T113

CONTAINER: **Standard waste box**

Container Matl: **steel**

Liner Type: **bag**

Number Stored:

Type/Size:

Int. Vol/Ctnr: **1.9**m3

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | 12.8 | 12.8 | m3 |
| End of 1993: | 12.8 | 12.8 | m3 |
| 1994: | 0.0 | 0.0 | m3/yr |
| 1995: | 0.0 | 0.0 | m3/yr |
| 1996: | 0.0 | 0.0 | m3/yr |
| 1997: | 0.0 | 0.0 | m3/yr |
| 1998-2002: | 0.0 | 0.0 | m3/yr |
| 2003-2022: | 0.0 | 0.0 | m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 5.48E-04 | Curies/m3 |
| Pu239 | 2.15E-02 | Curies/m3 |
| Pu240 | 4.84E-03 | Curies/m3 |
| Pu241 | 5.44E-02 | Curies/m3 |
| Pu242 | 2.82E-07 | Curies/m3 |
| Am241 | 2.45E-03 | Curies/m3 |
| Sr90 | 5.23E-04 | Curies/m3 |
| Cs137 | 5.58E-04 | Curies/m3 |
| Y90 | 5.23E-04 | Curies/m3 |
| Ba137m | 5.28E-04 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T113

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | 13.4 | 18.2 | m3 |
| End of 1993: | 13.4 | 18.2 | m3 |
| 1994: | 0.0 | 0.0 | m3/yr |
| 1995: | 0.0 | 0.0 | m3/yr |
| 1996: | 0.0 | 0.0 | m3/yr |
| 1997: | 0.0 | 0.0 | m3/yr |
| 1998-2002: | 0.0 | 0.0 | m3/yr |
| 2003-2022: | 0.0 | 0.0 | m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 4.02E-04 | Curies/m3 |
| Pu239 | 1.58E-02 | Curies/m3 |
| Pu240 | 3.55E-03 | Curies/m3 |
| Pu241 | 3.98E-02 | Curies/m3 |
| Pu242 | 2.07E-07 | Curies/m3 |
| Am241 | 1.80E-03 | Curies/m3 |
| Sr90 | 3.83E-04 | Curies/m3 |
| Cs137 | 4.09E-04 | Curies/m3 |
| Y90 | 3.83E-04 | Curies/m3 |
| Ba137m | 3.87E-04 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|-----------------|--|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | 209 E Bldg TRU Waste |
| | WIPP ID | RL-T114 | DESCRIPTION | This waste stream consists of TRU waste from the Critical Mass Laboratory. |
| | Local ID | RL-TB-114 | | |
| MATRIX CODE | 5400 | | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
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☐
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☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T114

CONTAINER: Standard waste box
Type/Size:

Container Matl: steel
Int. Vol/Ctnr: 1.9 m3

Liner Type: bag
Liner Material: plastic

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

Comments

Upper and lower weights for final waste form are unknown.

**STORED TRU WASTE ESTIMATED
RATES OF WASTE GENERATION**

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.7 | 1.7 m3 |
| End of 1993: | 1.7 | 1.7 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 1.24E-01 | Curies/m3 |
| Pu239 | 4.86E+00 | Curies/m3 |
| Pu240 | 9.93E+00 | Curies/m3 |
| Pu241 | 1.23E+01 | Curies/m3 |
| Pu242 | 6.36E-05 | Curies/m3 |
| Am241 | 5.54E-01 | Curies/m3 |
| Sr90 | 2.55E-02 | Curies/m3 |
| Cs137 | 2.78E-02 | Curies/m3 |
| Y90 | 2.55E-02 | Curies/m3 |
| Ba137m | 2.63E-02 | Curies/m3 |
| U-nat | 4.46E-08 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T114

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

**STORED TRU WASTE ESTIMATED
RATES OF WASTE GENERATION**

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | 13.4 | 18.1 | m3 |
| End of 1993: | 13.4 | 18.1 | m3 |
| 1994: | 0.0 | 0.0 | m3/yr |
| 1995: | 0.0 | 0.0 | m3/yr |
| 1996: | 0.0 | 0.0 | m3/yr |
| 1997: | 0.0 | 0.0 | m3/yr |
| 1998-2002: | 0.0 | 0.0 | m3/yr |
| 2003-2022: | 0.0 | 0.0 | m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 9.44E-02 | Curies/m3 |
| Pu239 | 3.71E+00 | Curies/m3 |
| Pu240 | 8.33E-01 | Curies/m3 |
| Pu241 | 9.36E+00 | Curies/m3 |
| Pu242 | 4.85E-05 | Curies/m3 |
| Am241 | 4.23E-01 | Curies/m3 |
| Sr90 | 1.94E-02 | Curies/m3 |
| Cs137 | 2.12E-02 | Curies/m3 |
| Y90 | 1.94E-02 | Curies/m3 |
| Ba137m | 2.00E-02 | Curies/m3 |
| U-nat | 3.40E-08 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|--|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | 231-Z Bldg TRU Waste |
| | WIPP ID | RL-T115 | | |
| | Local ID | RL-TB-115 | DESCRIPTION | This waste stream consists of TRU waste from the Materials Engineering Laboratory. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐

☒

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T115

CONTAINER: Standard waste box

Container Matl: steel

Liner Type: bag

Number Stored:

Type/Size:

Int. Vol/Ctnr: 1.9 m3

Liner Material: plastic

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 480.0 | 480.0 m3 |
| End of 1993: | 480.0 | 480.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 1.38E-02 | Curies/m3 |
| Pu239 | 5.41E-01 | Curies/m3 |
| Pu240 | 1.21E-01 | Curies/m3 |
| Pu241 | 1.37E+00 | Curies/m3 |
| Pu242 | 7.08E+06 | Curies/m3 |
| Am241 | 6.17E-02 | Curies/m3 |
| Sr90 | 1.09E-03 | Curies/m3 |
| Cs137 | 1.17E-03 | Curies/m3 |
| Y90 | 1.09E-03 | Curies/m3 |
| Ba137m | 1.10E-03 | Curies/m3 |
| U-dep | 2.13E-03 | Curies/m3 |
| U-enr | 3.67E-06 | Curies/m3 |
| U-nat | 1.09E-06 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T115

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 171.0 | 230.0 m3 |
| End of 1993: | 171.0 | 230.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.01E-02 Curies/m3 |
| Pu239 | 3.96E-01 Curies/m3 |
| Pu240 | 8.89E-02 Curies/m3 |
| Pu241 | 1.00E+00 Curies/m3 |
| Pu242 | 5.18E-06 Curies/m3 |
| Am241 | 4.51E-02 Curies/m3 |
| Sr90 | 7.99E-04 Curies/m3 |
| Cs137 | 8.53E-04 Curies/m3 |
| Y90 | 7.99E-04 Curies/m3 |
| Ba137m | 8.07E-04 Curies/m3 |
| U-dep | 1.56E-03 Curies/m3 |
| U-enr | 2.69E-06 Curies/m3 |
| U-nat | 8.01E-07 Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RL

| | | | | |
|--------------------------------|--|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | 303-C Bldg TRU Waste |
| | WIPP ID | RL-T116 | | |
| | Local ID | RL-TB-116 | DESCRIPTION | This waste stream consists of TRU waste from the Material Evaluation Laboratory. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T116

CONTAINER: **Standard waste box**

Container Matl: **steel**

Liner Type: **bag**

Number Stored:

Type/Size:

Int. Vol/Ctnr: **1.9 m3**

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.8 | 1.8 m3 |
| End of 1993: | 1.8 | 1.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 3.51E-01 | Curies/m3 |
| Pu239 | 1.38E+01 | Curies/m3 |
| Pu240 | 3.10E+00 | Curies/m3 |
| Pu241 | 3.48E+01 | Curies/m3 |
| Pu242 | 1.81E-04 | Curies/m3 |
| Am241 | 1.57E+00 | Curies/m3 |
| Sr90 | 2.01E+00 | Curies/m3 |
| Cs137 | 2.14E+00 | Curies/m3 |
| Y90 | 2.01E+00 | Curies/m3 |
| Ba137m | 2.02E+00 | Curies/m3 |
| U-enr | 1.12E-02 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T116

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid
Liner Material: HDPE

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 6.6 | 8.9 m3 |
| End of 1993: | 6.6 | 8.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 2.60E-01 | Curies/m3 |
| Pu239 | 1.02E+01 | Curies/m3 |
| Pu240 | 2.30E+00 | Curies/m3 |
| Pu241 | 2.58E+01 | Curies/m3 |
| Pu242 | 1.34E-04 | Curies/m3 |
| Am241 | 1.17E+00 | Curies/m3 |
| Sr90 | 1.49E+00 | Curies/m3 |
| Cs137 | 1.58E+00 | Curies/m3 |
| Y90 | 1.49E+00 | Curies/m3 |
| Ba137m | 1.50E+00 | Curies/m3 |
| U-enr | 8.33E-03 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|-----------|---|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | 318 Bldg TRU Waste |
| | WIPP ID | RL-T117 | | |
| | Local ID | RL-TB-117 | DESCRIPTION | This waste stream consists of TRU waste from the Radiological Calibration Laboratory. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T117

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.1 | 0.1 m3 |
| End of 1993: | 0.1 | 0.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Sr90 | 8.27E-02 | Curies/m3 |
| Cs137 | 9.01E-02 | Curies/m3 |
| Y90 | 8.27E-02 | Curies/m3 |
| Ba137m | 8.53E-02 | Curies/m3 |
| U-dep | 6.06E-04 | Curies/m3 |
| U-enr | 2.17E-04 | Curies/m3 |
| U-nat | 6.94E-06 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.
Waste stream has been identified as TRU waste but its isotopic composition is incomplete.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|---|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | 300 Area RD TRU Waste |
| | WIPP ID | RL-T118 | | |
| | Local ID | RL-TB-118 | DESCRIPTION | This waste stream consists of contact-handled TRU waste from the Chemical Engineering Building and Radiochemistry Building Laboratory and Hot Cells, and Radiochemistry Building Cesium Recovery, and Radioanalytic Laboratory. A volume of 3.19 m3 generated in 1984 is radioactive sources, stored in trenches. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. The waste consists of irradiated fuel from R&D activities, both in complete assemblies or pins of irradiated fuel; and irradiated fuel fragments and resultant waste generated from irradiated fuel experiments and/or examinations, such as polishing residue, cutting fluids, absorbents, and metal fines. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T118

CONTAINER: Standard waste box

Type/Size:

Container Mat: steel

Liner Type: bag

Number Stored:

Int. Vol/Ctnr: 1.9/m3

Liner Material: plastic

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 48.5 | 48.5 m3 |
| End of 1993: | 48.5 | 48.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.29E-02 Curies/m3 |
| Pu239 | 5.08E-01 Curies/m3 |
| Pu240 | 1.14E-01 Curies/m3 |
| Pu241 | 1.28E+00 Curies/m3 |
| Pu242 | 6.64E-06 Curies/m3 |
| Am241 | 5.78E-02 Curies/m3 |
| Sr90 | 3.43E-01 Curies/m3 |
| Cs137 | 3.59E-01 Curies/m3 |
| Y90 | 3.43E-01 Curies/m3 |
| Ba137m | 3.40E-01 Curies/m3 |
| U-dep | 2.67E-04 Curies/m3 |
| U-enr | 8.60E-04 Curies/m3 |
| U-nat | 1.59E-05 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T118

CONTAINER:

Drum

Container Matl:

steel

Liner Type:

rigid

Number Stored:

Type/Size:

55-gallon

Int. Vol/Ctnr:

0.208 m3

Liner Material:

HDPE

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

Material Parameters

| | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 205.0 | 276.0 m3 |
| End of 1993: | 205.0 | 276.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 9.67E-03 | Curies/m3 |
| Pu239 | 3.79E-01 | Curies/m3 |
| Pu240 | 8.52E-02 | Curies/m3 |
| Pu241 | 9.60E-01 | Curies/m3 |
| Pu242 | 4.96E-06 | Curies/m3 |
| Am241 | 4.32E-02 | Curies/m3 |
| Sr90 | 2.56E-01 | Curies/m3 |
| Cs137 | 2.68E-01 | Curies/m3 |
| Y90 | 2.56E-01 | Curies/m3 |
| Ba137m | 2.54E-01 | Curies/m3 |
| U-dep | 2.00E-04 | Curies/m3 |
| U-enr | 6.43E-04 | Curies/m3 |
| U-nat | 1.19E-05 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RL

| | | | | |
|--------------------------------|--|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | 300 Area RD TRU Waste (High U) |
| | WIPP ID | RL-T119 | | |
| | Local ID | RL-TB-119 | DESCRIPTION | This waste stream consists of TRU waste from the Electron Accelerator. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some boxes. Boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T119

CONTAINER: Standard waste box

Container Matl: steel

Liner Type: bag

Number Stored:

Type/Size:

Int. Vol/Ctnr: 1.9 m3

Liner Material: plastic

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.8 | 0.8 m3 |
| End of 1993: | 0.8 | 0.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 1.94E-04 | Curies/m3 |
| Pu239 | 7.63E-03 | Curies/m3 |
| Pu240 | 1.71E-03 | Curies/m3 |
| Pu241 | 1.93E-02 | Curies/m3 |
| Pu242 | 9.99E-08 | Curies/m3 |
| Am241 | 8.70E-04 | Curies/m3 |
| U-dep | 4.40E-02 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|--|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Construction Debris |
| | WIPP ID | RL-T120 | | |
| | Local ID | RL-TB-120 | DESCRIPTION | This waste stream consists of TRU waste from the construction activities. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒

TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T120

CONTAINER: Standard waste box

Container Matl: steel

Liner Type: bag

Number Stored:

Type/Size:

Int. Vol/Ctnr: 1.9 m3

Liner Material: plastic

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 50.1 | 50.1 m3 |
| End of 1993: | 50.1 | 50.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 8.75E-03 | Curies/m3 |
| Pu239 | 3.44E-01 | Curies/m3 |
| Pu240 | 7.72E-02 | Curies/m3 |
| Pu241 | 8.68E-01 | Curies/m3 |
| Pu242 | 4.50E-06 | Curies/m3 |
| Am241 | 3.92E-02 | Curies/m3 |
| Sr90 | 1.12E-02 | Curies/m3 |
| Cs137 | 1.19E-02 | Curies/m3 |
| Y90 | 1.12E-02 | Curies/m3 |
| Ba137m | 1.13E-03 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T120

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 21.5 | 29.0 m3 |
| End of 1993: | 21.5 | 29.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 6.48E-03 | Curies/m3 |
| Pu239 | 2.55E-01 | Curies/m3 |
| Pu240 | 5.72E-02 | Curies/m3 |
| Pu241 | 6.43E-01 | Curies/m3 |
| Pu242 | 3.33E-06 | Curies/m3 |
| Am241 | 2.90E-02 | Curies/m3 |
| Sr90 | 8.28E-03 | Curies/m3 |
| Cs137 | 8.84E-03 | Curies/m3 |
| Y90 | 8.28E-03 | Curies/m3 |
| Ba137m | 8.36E-03 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL** WASTE TYPE **TRU** HANDLING **RH** GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|-----------|--|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | 105-KE Bldg TRU Waste |
| | WIPP ID | RL-T121 | | |
| | Local ID | RL-TB-121 | DESCRIPTION | This waste stream consists of remote-handled TRU waste from the operation of the Fuel Storage Basins. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some boxes. Boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT **TRUCON CODE**

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|---------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **RH**

GENERATOR SITE **RL**

RL-T121

CONTAINER: RH Canister (for boxed waste)

Container Matl: **steel**

Liner Type:

Number Stored:

Type/Size:

Int. Vol/Ctnr: **0.89** m3

Liner Material:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 25.2 | 25.2 m3 |
| End of 1993: | 25.2 | 25.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 2.83E-03 | Curies/m3 |
| Pu239 | 1.11E-01 | Curies/m3 |
| Pu240 | 2.50E-02 | Curies/m3 |
| Pu241 | 2.81E-01 | Curies/m3 |
| Pu242 | 1.46E-06 | Curies/m3 |
| Am241 | 1.27E-02 | Curies/m3 |
| Sr90 | 9.47E-03 | Curies/m3 |
| Cs137 | 1.01E-02 | Curies/m3 |
| Y90 | 9.47E-03 | Curies/m3 |
| Ba137m | 9.56E-03 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|--|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | 105-C and 105-N Bldg TRU Waste |
| | WIPP ID | RL-T122 | | |
| | Local ID | RL-TB-122 | DESCRIPTION | This waste stream consists of TRU waste from the operation of the Reactors. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T122

CONTAINER: **Standard waste box**

Container Matl: **steel**

Liner Type: **bag**

Number Stored:

Type/Size:

Int. Vol/Ctnr: **1.9** m3

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 12.9 | 12.9 m3 |
| End of 1993: | 12.9 | 12.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 1.01E-02 | Curies/m3 |
| Pu239 | 3.95E-01 | Curies/m3 |
| Pu240 | 8.88E-02 | Curies/m3 |
| Pu241 | 9.98E-01 | Curies/m3 |
| Pu242 | 5.17E-06 | Curies/m3 |
| Am241 | 4.51E-02 | Curies/m3 |
| Sr90 | 7.83E-01 | Curies/m3 |
| Cs137 | 8.36E-01 | Curies/m3 |
| Y90 | 7.83E-01 | Curies/m3 |
| Ba137m | 7.91E-01 | Curies/m3 |
| U-enr | 1.46E-01 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T122

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.3 | 0.4 m3 |
| End of 1993: | 0.3 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 6.22E-03 | Curies/m3 |
| Pu239 | 2.44E-01 | Curies/m3 |
| Pu240 | 5.48E-02 | Curies/m3 |
| Pu241 | 6.16E-01 | Curies/m3 |
| Pu242 | 3.20E-06 | Curies/m3 |
| Am241 | 2.78E-02 | Curies/m3 |
| Sr90 | 4.83E-01 | Curies/m3 |
| Cs137 | 5.16E-01 | Curies/m3 |
| Y90 | 4.83E-01 | Curies/m3 |
| Ba137m | 4.88E-01 | Curies/m3 |
| U-enr | 9.00E-02 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **AE**

| | | | | |
|--------------------------------|----------|-----------|---|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Argonne Nat Lab Type 1 TRU Waste |
| | WIPP ID | RL-T123 | | |
| | Local ID | RL-TB-123 | DESCRIPTION | This waste stream consists of TRU waste from the Argonne National Laboratory. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☐
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **AE**

RL-T123

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.1 | 0.2 m3 |
| End of 1993: | 0.1 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.85E+00 Curies/m3 |
| Pu239 | 7.27E+01 Curies/m3 |
| Pu240 | 1.63E+01 Curies/m3 |
| Pu241 | 1.84E+02 Curies/m3 |
| Pu242 | 9.52E-04 Curies/m3 |
| Am241 | 8.29E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **AE**

| | | | | |
|--------------------------------|----------|-----------|---|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Argonne Nat Lab Type II TRU Waste |
| | WIPP ID | RL-T124 | | |
| | Local ID | RL-TB-124 | DESCRIPTION | This waste stream consists of TRU waste from the Argonne National Laboratory. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☐
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **AE**

RL-T124

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**
Int. Vol/Ctnr: **0.208**/m3

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.6 m3 |
| End of 1993: | 0.4 | 0.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 7.09E-02 | Curies/m3 |
| Pu239 | 2.78E+00 | Curies/m3 |
| Pu240 | 6.25E-01 | Curies/m3 |
| Pu241 | 7.03E+00 | Curies/m3 |
| Pu242 | 3.64E-05 | Curies/m3 |
| Am241 | 3.17E-01 | Curies/m3 |
| U-enr | 2.09E-02 | Curies/m3 |
| U-nat | 6.04E-03 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE AE

| | | | | |
|--------------------------------|--|-----------|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Argonne Nat Lab Type III TRU Waste |
| | WIPP ID | RL-T125 | | |
| | Local ID | RL-TB-125 | DESCRIPTION | This waste stream consists of TRU waste from the Argonne National Laboratory. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **AE**

RL-T125

CONTAINER: Standard waste box

Type/Size:

Container Matl: steel

Liner Type: bag

Number Stored:

Int. Vol/Ctnr: 1.9 m3

Liner Material: plastic

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

Material Parameters

| | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 6.9 | 6.9 m3 |
| End of 1993: | 6.9 | 6.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Sr90 | 2.57E+02 Curies/m3 |
| Cs137 | 2.80E+02 Curies/m3 |
| Y90 | 2.57E+02 Curies/m3 |
| Ba137m | 2.65E+02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.
Waste stream has been identified as TRU waste but its isotopic composition is incomplete.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **AE**

RL-T125

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Liner Type: **rigid**

Number Stored:

Int. Vol/Ctnr: **0.208 m3**

Liner Material: **HDPE**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

Material Parameters

| | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 4.4 | 5.9 m3 |
| End of 1993: | 4.4 | 5.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Sr90 | 1.91E+02 | Curies/m3 |
| Cs137 | 2.09E+02 | Curies/m3 |
| Y90 | 1.91E+02 | Curies/m3 |
| Ba137m | 1.98E+02 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.
Waste stream has been identified as TRU waste but its isotopic composition is incomplete.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **RH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|-----------------|--|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | 300 Area R&D High Activity TRU Waste |
| | WIPP ID | RL-T126 | DESCRIPTION | This waste stream consists of TRU waste from the Chemical Engineering Building Laboratory and Hot Cells. |
| | Local ID | RL-TB-126 | | |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **RH**

GENERATOR SITE **RL**

RL-T126

CONTAINER: **RH Canister (for boxed waste)**

Type/Size:

Container Matl: **Steel**

Liner Type:

Number Stored:

Int. Vol/Ctnr: **0.89** m3

Liner Material:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2.5 | 2.5 m3 |
| End of 1993: | 2.5 | 2.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 5.59E-03 Curies/m3 |
| Pu239 | 2.20E-01 Curies/m3 |
| Pu240 | 4.94E-02 Curies/m3 |
| Pu241 | 5.55E-01 Curies/m3 |
| Pu242 | 2.88E-06 Curies/m3 |
| Am241 | 2.51E-02 Curies/m3 |
| Sr90 | 1.78E+03 Curies/m3 |
| Cs137 | 1.90E+03 Curies/m3 |
| Y90 | 1.78E+03 Curies/m3 |
| Ba137m | 1.80E+03 Curies/m3 |
| U-enr | 1.02E-02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **RH**

GENERATOR SITE **RL**

RL-T126

CONTAINER: **RH Canister (for drums)**

Type/Size:

Container Matl: **Steel**

Liner Type:

Number Stored:

Int. Vol/Ctnr: **0.89**m3

Liner Material:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 527.0 | | |
| Packaging Material, Plastic | 26.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.8 | 2.4 m3 |
| End of 1993: | 1.8 | 2.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 4.14E-03 | Curies/m3 |
| Pu239 | 1.63E-01 | Curies/m3 |
| Pu240 | 3.66E-02 | Curies/m3 |
| Pu241 | 4.11E-01 | Curies/m3 |
| Pu242 | 2.13E-06 | Curies/m3 |
| Am241 | 1.86E-02 | Curies/m3 |
| Sr90 | 1.32E+03 | Curies/m3 |
| Cs137 | 1.41E+03 | Curies/m3 |
| Y90 | 1.32E+03 | Curies/m3 |
| Ba137m | 1.33E+03 | Curies/m3 |
| U-enr | 7.55E-03 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **BABCOCK WILCOX**

| | | | | |
|--------------------------------|----------|-----------|--|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Babcock Wilcox TRU Waste |
| | WIPP ID | RL-T127 | | |
| | Local ID | RL-TB-127 | DESCRIPTION | This waste stream consists of TRU waste from the Babcock Wilcox. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **BABCOCK WILCOX**

RL-T127

CONTAINER: **Standard waste box**

Container Matl: **steel**

Liner Type: **bag**

Number Stored:

Type/Size:

Int. Vol/Ctnr: **1.9 m3**

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 72.7 | 72.7 m3 |
| End of 1993: | 72.7 | 72.7 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.07E-01 Curies/m3 |
| Pu239 | 4.21E+00 Curies/m3 |
| Pu240 | 9.45E-01 Curies/m3 |
| Pu241 | 1.06E+01 Curies/m3 |
| Pu242 | 5.50E-05 Curies/m3 |
| Am241 | 4.79E-01 Curies/m3 |
| Sr90 | 1.68E-03 Curies/m3 |
| Cs137 | 1.71E-03 Curies/m3 |
| U-dep | 7.22E-04 Curies/m3 |
| U-enr | 1.99E-06 Curies/m3 |
| U-nat | 6.71E-08 Curies/m3 |
| Y90 | 1.68E-03 Curies/m3 |
| Ba137m | 1.62E-03 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **BABCOCK WILCOX**

RL-T127

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

Upper and lower weights for final waste stream are unknown.

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 119.0 | 160.0 m3 |
| End of 1993: | 119.0 | 160.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 7.93E-02 | Curies/m3 |
| Pu239 | 3.12E+00 | Curies/m3 |
| Pu240 | 7.00E-01 | Curies/m3 |
| Pu241 | 7.87E+00 | Curies/m3 |
| Pu242 | 4.08E-05 | Curies/m3 |
| Am241 | 3.55E-01 | Curies/m3 |
| Sr90 | 1.25E-03 | Curies/m3 |
| Cs137 | 1.27E-03 | Curies/m3 |
| U-dep | 5.35E-04 | Curies/m3 |
| U-enr | 1.48E-06 | Curies/m3 |
| U-nat | 4.97E-08 | Curies/m3 |
| Y90 | 1.25E-03 | Curies/m3 |
| Ba137m | 1.20E-03 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE BARTLESVILLE

| | | | | |
|--------------------------------|---|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Bartlesville TRU Waste |
| | WIPP ID | RL-T128 | | |
| | Local ID | RL-TB-128 | DESCRIPTION | This waste stream consists of TRU waste from Bartlesville. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **BARTLESVILLE**

RL-T128

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Mat: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.3 | 0.4 m3 |
| End of 1993: | 0.3 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Sr90 | 1.85E-03 | Curies/m3 |
| Cs137 | 1.98E-03 | Curies/m3 |
| Y90 | 1.85E-03 | Curies/m3 |
| Ba137M | 1.87E-03 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.
Waste stream has been identified as TRU waste but its isotopic composition is incomplete.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **BC**

| | | | | |
|--------------------------------|---|---|--------------------|---|
| WASTE STREAM | MWIR ID WIPP ID Local ID | <div style="border: 1px solid black; height: 15px; margin-bottom: 2px;"></div> <div style="border: 1px solid black; height: 15px; margin-bottom: 2px;"></div> <div style="border: 1px solid black; height: 15px;"></div> | STREAM NAME | Battelle Columbus Type I TRU Waste |
| MATRIX CODE | | 5400 | DESCRIPTION | This waste stream consists of TRU waste from Battelle Columbus. |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | <p>Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms.</p> | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|---------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input checked="" type="checkbox"/> | TSCA Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **BC**

RL-T129

CONTAINER: Standard waste box

Container Matl: steel

Liner Type: bag

Number Stored:

Type/Size:

Int. Vol/Ctnr: 1.9/m3

Liner Material: plastic

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 4.8 | 4.8 m3 |
| End of 1993: | 4.8 | 4.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 3.44E-02 | Curies/m3 |
| Pu239 | 1.35E+00 | Curies/m3 |
| Pu240 | 3.03E-01 | Curies/m3 |
| Pu241 | 3.41E+00 | Curies/m3 |
| Pu242 | 1.77E-05 | Curies/m3 |
| Am241 | 1.54E-01 | Curies/m3 |
| Sr90 | 1.31E-02 | Curies/m3 |
| Cs137 | 1.40E-02 | Curies/m3 |
| U-enr | 1.09E-03 | Curies/m3 |
| Y90 | 1.31E-02 | Curies/m3 |
| Ba137m | 1.32E-02 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **BC**

RL-T129

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Liner Type: **rigid**

Number Stored:

Int. Vol/Ctnr: **0.208 m3**

Liner Material: **HDPE**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | 3.9 | 5.3 | m3 |
| End of 1993: | 3.9 | 5.3 | m3 |
| 1994: | 0.0 | 0.0 | m3/yr |
| 1995: | 0.0 | 0.0 | m3/yr |
| 1996: | 0.0 | 0.0 | m3/yr |
| 1997: | 0.0 | 0.0 | m3/yr |
| 1998-2002: | 0.0 | 0.0 | m3/yr |
| 2003-2022: | 0.0 | 0.0 | m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 2.55E-02 | Curies/m3 |
| Pu239 | 1.00E+00 | Curies/m3 |
| Pu240 | 2.25E-01 | Curies/m3 |
| Pu241 | 2.53E+00 | Curies/m3 |
| Pu242 | 1.31E-05 | Curies/m3 |
| Am241 | 1.14E-01 | Curies/m3 |
| Sr90 | 9.68E-03 | Curies/m3 |
| Cs137 | 1.04E-02 | Curies/m3 |
| U-enr | 8.08E-04 | Curies/m3 |
| Y90 | 9.68E-03 | Curies/m3 |
| Ba137m | 9.80E-03 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **BC**

| | | | | |
|--------------------------------|----------|-----------|--|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Battelle Columbus Type II TRU Waste |
| | WIPP ID | RL-T130 | | |
| | Local ID | RL-TB-130 | DESCRIPTION | This waste stream consists of TRU waste from Battelle Columbus. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **BC**

RL-T130

CONTAINER: Standard waste box

Type/Size:

Container Matl: steel

Liner Type: bag

Number Stored:

Int. Vol/Ctnr: 1.9 m3

Liner Material: plastic

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 5.6 | 5.6 m3 |
| End of 1993: | 5.6 | 5.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.46E-04 Curies/m3 |
| Pu239 | 5.72E-03 Curies/m3 |
| Pu240 | 1.29E-03 Curies/m3 |
| Pu241 | 1.44E-02 Curies/m3 |
| Pu242 | 7.49E-08 Curies/m3 |
| Am241 | 6.52E-04 Curies/m3 |
| U-enr | 1.27E-05 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste stream are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **BC**

RL-T130

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

Upper and lower weights for final waste stream are unknown.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | 4.6 | 6.2 | m3 |
| End of 1993: | 4.6 | 6.2 | m3 |
| 1994: | 0.0 | 0.0 | m3/yr |
| 1995: | 0.0 | 0.0 | m3/yr |
| 1996: | 0.0 | 0.0 | m3/yr |
| 1997: | 0.0 | 0.0 | m3/yr |
| 1998-2002: | 0.0 | 0.0 | m3/yr |
| 2003-2022: | 0.0 | 0.0 | m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 1.08E-04 | Curies/m3 |
| Pu239 | 4.24E-03 | Curies/m3 |
| Pu240 | 9.52E-04 | Curies/m3 |
| Pu241 | 1.07E-02 | Curies/m3 |
| Pu242 | 5.55E-08 | Curies/m3 |
| Am241 | 4.83E-04 | Curies/m3 |
| U-enr | 9.44E-06 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE

| | | | |
|--------------------------------|---|---|---|
| WASTE STREAM | MWIR ID WIPP ID RL-T131 Local ID RL-TB-131 | STREAM NAME | Energy Systems Group TRU Waste |
| MATRIX CODE | 5400 | DESCRIPTION | This waste stream consists of TRU waste from the Energy Systems Group |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Heterogeneous | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE

RL-T131

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 26.1 | 35.2 m3 |
| End of 1993: | 26.1 | 35.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 1.74E-02 | Curies/m3 |
| Pu239 | 6.83E-01 | Curies/m3 |
| Pu240 | 1.53E-01 | Curies/m3 |
| Pu241 | 1.72E+00 | Curies/m3 |
| Pu242 | 8.93E-06 | Curies/m3 |
| Am241 | 7.78E-02 | Curies/m3 |
| Sr90 | 3.25E-01 | Curies/m3 |
| Cs137 | 3.54E-01 | Curies/m3 |
| Y90 | 3.25E-01 | Curies/m3 |
| Ba137m | 3.35E-01 | Curies/m3 |
| U-dep | 2.24E-05 | Curies/m3 |
| U-enr | 3.01E-04 | Curies/m3 |
| U-nat | 2.36E-07 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **EXXON**

| | | | | |
|--------------------------------|----------|-----------|---|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Exxon Type 1 TRU Waste |
| | WIPP ID | RL-T132 | | |
| | Local ID | RL-TB-132 | DESCRIPTION | This waste stream consists of TRU waste from Exxon. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **EXXON**

RL-T132

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Mat: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.6 | 0.8 m3 |
| End of 1993: | 0.6 | 0.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.48E-01 Curies/m3 |
| Pu239 | 5.82E+00 Curies/m3 |
| Pu240 | 1.31E+00 Curies/m3 |
| Pu241 | 1.47E+01 Curies/m3 |
| Pu242 | 7.82E-05 Curies/m3 |
| Am241 | 6.64E-01 Curies/m3 |
| Sr90 | 2.34E-03 Curies/m3 |
| Cs137 | 2.50E-03 Curies/m3 |
| Y90 | 2.34E-03 Curies/m3 |
| Ba137m | 2.36E-03 Curies/m3 |
| U-enr | 1.28E-04 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **EXXON**

| | | | | |
|--------------------------------|----------|-----------|---|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Exxon Type I TRU Waste |
| | WIPP ID | RL-T133 | | |
| | Local ID | RL-TB-133 | DESCRIPTION | This waste stream consists of TRU waste from Exxon. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
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☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **EXXON**

RL-T133

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 21.3 | 28.7 m3 |
| End of 1993: | 21.3 | 28.7 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.85E+00 Curies/m3 |
| Pu239 | 7.26E+01 Curies/m3 |
| Pu240 | 1.63E+01 Curies/m3 |
| Pu241 | 1.83E+02 Curies/m3 |
| Pu242 | 9.50E-04 Curies/m3 |
| Am241 | 8.27E+00 Curies/m3 |
| U-nat | 2.57E-02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **LB**

| | | | | |
|--------------------------------|----------|---|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Lawrence Berkeley Nat Lab TRU Waste |
| | WIPP ID | RL-T134 | | |
| | Local ID | RL-TB-134 | DESCRIPTION | This waste stream consists of TRU waste from the Lawrence Berkeley National Laboratories. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **LB**

RL-T134

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.1 | 0.1 m3 |
| End of 1993: | 0.1 | 0.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 1.04E-02 | Curies/m3 |
| Pu239 | 4.07E-01 | Curies/m3 |
| Pu240 | 9.14E-02 | Curies/m3 |
| Pu241 | 1.03E+00 | Curies/m3 |
| Pu242 | 5.33E-06 | Curies/m3 |
| Am241 | 4.64E-02 | Curies/m3 |
| Sr90 | 5.56E+00 | Curies/m3 |
| Cs137 | 5.94E+00 | Curies/m3 |
| Y90 | 5.56E+00 | Curies/m3 |
| Ba137m | 5.62E+00 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **LL**

| | | | | |
|--------------------------------|----------|---|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Lawrence Livermore Type I TRU Waste |
| | WIPP ID | RL-T135 | | |
| | Local ID | RL-TB-135 | DESCRIPTION | This waste stream consists of TRU waste from the Lawrence Livermore National Laboratories. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **LL**

RL-T135

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulose | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

**STORED TRU WASTE -ESTIMATED
RATES OF WASTE GENERATION**

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.3 m3 |
| End of 1993: | 0.2 | 0.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 3.11E-02 | Curies/m3 |
| Pu239 | 1.22E+00 | Curies/m3 |
| Pu240 | 2.74E-01 | Curies/m3 |
| Pu241 | 3.08E+00 | Curies/m3 |
| Pu242 | 1.60E-05 | Curies/m3 |
| Am241 | 1.39E-01 | Curies/m3 |
| Sr90 | 1.39E-04 | Curies/m3 |
| Cs137 | 1.48E-04 | Curies/m3 |
| Y90 | 1.39E-04 | Curies/m3 |
| Ba137m | 1.40E-04 | Curies/m3 |
| U-dep | 2.34E-02 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU W. /E BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE LL

| | | | | |
|--------------------------------|---|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Lawrence Livermore Nat Lab Type II TRU Waste |
| | WIPP ID | RL-T136 | | |
| | Local ID | RL-TB-136 | DESCRIPTION | This waste stream consists of TRU waste from the Lawrence Livermore National Laboratories. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **LL**

RL-T136

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | 0.1 | 0.1 | m3 |
| End of 1993: | 0.1 | 0.1 | m3 |
| 1994: | 0.0 | 0.0 | m3/yr |
| 1995: | 0.0 | 0.0 | m3/yr |
| 1996: | 0.0 | 0.0 | m3/yr |
| 1997: | 0.0 | 0.0 | m3/yr |
| 1998-2002: | 0.0 | 0.0 | m3/yr |
| 2003-2022: | 0.0 | 0.0 | m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 1.05E-02 | Curies/m3 |
| Pu239 | 4.13E-01 | Curies/m3 |
| Pu240 | 9.26E-02 | Curies/m3 |
| Pu241 | 1.04E+00 | Curies/m3 |
| Pu242 | 5.40E-06 | Curies/m3 |
| Am241 | 4.70E-02 | Curies/m3 |
| U-dep | 2.52E+01 | Curies/m3 |
| U-nat | 1.62E-01 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **KERR MCGEE**

| | | | | |
|--------------------------------|----------|-----------|--|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Kerr McGee TRU Waste |
| | WIPP ID | RL-T137 | | |
| | Local ID | RL-TB-137 | DESCRIPTION | This waste stream consists of TRU waste from Kerr McGee. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **KERR MCGEE**

RL-T137

CONTAINER: **SWB**

Container Matl: **steel**

Liner Type: **bag**

Number Stored:

Type/Size:

Int. Vol/Ctnr: **1.9/m3**

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.0 | 1.0 m3 |
| End of 1993: | 1.0 | 1.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 1.16E-01 | Curies/m3 |
| Pu239 | 4.56E+00 | Curies/m3 |
| Pu240 | 1.02E+00 | Curies/m3 |
| Pu241 | 1.15E+01 | Curies/m3 |
| Pu242 | 5.96E-05 | Curies/m3 |
| Am241 | 5.19E-01 | Curies/m3 |
| Sr90 | 1.10E-01 | Curies/m3 |
| Cs137 | 1.21E-01 | Curies/m3 |
| Y90 | 1.10E-01 | Curies/m3 |
| Ba137m | 1.14E-01 | Curies/m3 |
| U-dep | 6.39E-04 | Curies/m3 |
| U-enr | 2.29E-04 | Curies/m3 |
| U-nat | 7.32E-06 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **KERR MCGEE**

RL-T137

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 99.1 | 134.0 m3 |
| End of 1993: | 99.1 | 134.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 8.59E-02 | Curies/m3 |
| Pu239 | 3.38E+00 | Curies/m3 |
| Pu240 | 7.58E-01 | Curies/m3 |
| Pu241 | 8.52E+00 | Curies/m3 |
| Pu242 | 4.42E-05 | Curies/m3 |
| Am241 | 3.85E-01 | Curies/m3 |
| Sr90 | 8.18E-02 | Curies/m3 |
| Cs137 | 8.93E-02 | Curies/m3 |
| Y90 | 8.18E-02 | Curies/m3 |
| Ba137m | 8.45E-02 | Curies/m3 |
| U-dep | 4.74E-04 | Curies/m3 |
| U-enr | 1.70E-04 | Curies/m3 |
| U-nat | 5.42E-06 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **GE**

| | | | | |
|--------------------------------|-----------------|-----------|--|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Pleasanton Type I TRU Waste |
| | WIPP ID | RL-T138 | | |
| | Local ID | RL-TB-138 | DESCRIPTION | This waste consists of TRU waste form General Electric Pleasanton. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastics sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves, and rubber. Absorbed combustible liquids such as oils have also been placed in some boxes. Boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **GE**

RL-T138

CONTAINER: **SWB**

Type/Size:

Container Matl: **steel**

Liner Type: **bag**

Number Stored:

Int. Vol/Ctnr: **1.9** m3

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 40.9 | 40.9 m3 |
| End of 1993: | 40.9 | 40.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 1.36E-05 | Curies/m3 |
| Pu239 | 5.35E-04 | Curies/m3 |
| Pu240 | 1.20E-04 | Curies/m3 |
| Pu241 | 1.35E-03 | Curies/m3 |
| Pu242 | 7.00E-09 | Curies/m3 |
| Am241 | 6.09E-05 | Curies/m3 |
| Sr90 | 2.76E-04 | Curies/m3 |
| Cs137 | 2.93E-04 | Curies/m3 |
| Y90 | 2.76E-04 | Curies/m3 |
| Ba137m | 2.77E-04 | Curies/m3 |
| U-nat | 2.05E-08 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **GE**

| | | | | |
|--------------------------------|----------|--|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Pleasanton Type II TRU Waste |
| | WIPP ID | RL-T139 | | |
| | Local ID | RL-TB-139 | DESCRIPTION | This waste stream consists of TRU waste from General Electric Pleasanton. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some boxes. Boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **GE**

RL-T139

CONTAINER: **SWB**

Type/Size:

Container Matl: **steel**

Liner Type: **bag**

Number Stored:

Int. Vol/Ctnr: **1.9** m3

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 146.0 | 146.0 m3 |
| End of 1993: | 146.0 | 146.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 3.30E-03 | Curies/m3 |
| Pu239 | 1.30E-01 | Curies/m3 |
| Pu240 | 2.91E-02 | Curies/m3 |
| Pu241 | 3.27E-01 | Curies/m3 |
| Pu242 | 1.70E-06 | Curies/m3 |
| Am241 | 1.48E-02 | Curies/m3 |
| Sr90 | 1.31E-02 | Curies/m3 |
| Cs137 | 1.40E-02 | Curies/m3 |
| Y90 | 1.31E-02 | Curies/m3 |
| Ba137m | 1.32E-02 | Curies/m3 |
| U-nat | 7.08E-04 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RF**

| | | | | |
|--------------------------------|----------|---|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Rocky Flats Type I TRU Waste |
| | WIPP ID | RL-T140 | | |
| | Local ID | RL-TB-140 | DESCRIPTION | This waste stream consists of TRU waste from Rocky Flats. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RF**

RL-T140

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Mat: **steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 6.9 | 9.3 m3 |
| End of 1993: | 6.9 | 9.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 1.26E-02 Curies/m3 |
| Pu239 | 4.94E-01 Curies/m3 |
| Pu240 | 1.11E-01 Curies/m3 |
| Pu241 | 1.25E+00 Curies/m3 |
| Pu242 | 6.47E-06 Curies/m3 |
| Am241 | 5.63E-02 Curies/m3 |
| Sr90 | 9.16E-03 Curies/m3 |
| Cs137 | 9.78E-03 Curies/m3 |
| Y90 | 9.16E-03 Curies/m3 |
| Ba137m | 9.25E-03 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RF

| | | | | |
|--------------------------------|---|-----------|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Rocky Flats Type II TRU Waste |
| | WIPP ID | RL-T141 | | |
| | Local ID | RL-TB-141 | DESCRIPTION | This waste stream consists of TRU waste from Rocky Flats. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RF**

RL-T141

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**
Int. Vol/Ctnr: **0.208**m3

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | 74.1 | 100.0 | m3 |
| End of 1993: | 74.1 | 100.0 | m3 |
| 1994: | 0.0 | 0.0 | m3/yr |
| 1995: | 0.0 | 0.0 | m3/yr |
| 1996: | 0.0 | 0.0 | m3/yr |
| 1997: | 0.0 | 0.0 | m3/yr |
| 1998-2002: | 0.0 | 0.0 | m3/yr |
| 2003-2022: | 0.0 | 0.0 | m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 2.59E-02 | Curies/m3 |
| Pu239 | 1.02E+00 | Curies/m3 |
| Pu240 | 2.28E-01 | Curies/m3 |
| Pu241 | 2.57E+00 | Curies/m3 |
| Pu242 | 1.33E-05 | Curies/m3 |
| Am241 | 1.16E-01 | Curies/m3 |
| Sr90 | 5.82E-03 | Curies/m3 |
| Cs137 | 6.27E-03 | Curies/m3 |
| Y90 | 5.82E-03 | Curies/m3 |
| Ba137m | 5.94E-03 | Curies/m3 |
| U-dep | 3.03E-01 | Curies/m3 |
| U-enr | 1.25E-02 | Curies/m3 |
| U-nat | 7.65E-04 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE ☐ TRU

HANDLING ☐ CH

GENERATOR SITE SALT LAKE CITY

| | | | | |
|--------------------------------|--|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Salt Lake City TRU Waste |
| | WIPP ID | RL-T142 | | |
| | Local ID | RL-TB-142 | DESCRIPTION | This waste stream consists of TRU waste from Salt Lake City. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some boxes. Boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **SALT LAKE CITY**

RL-T142

CONTAINER: **SWB**

Container Matl: **steel**

Liner Type: **bag**

Number Stored:

Type/Size:

Int. Vol/Ctnr: **1.9** m3

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.9 | 0.9 m3 |
| End of 1993: | 0.9 | 0.9 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Sr90 | 9.37E-05 | Curies/m3 |
| Cs137 | 1.00E-04 | Curies/m3 |
| Y90 | 9.37E-05 | Curies/m3 |
| Ba137m | 9.46E-07 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.
Waste stream has been identified a TRU waste but its isotopic composition is incomplete.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **GE**

| | | | | |
|--------------------------------|----------|-----------|---|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | GE San Jose and Vallecitos TRU Waste |
| | WIPP ID | RL-T143 | | |
| | Local ID | RL-TB-143 | DESCRIPTION | This waste consists of typically contact-handled TRU waste from the General Electric Plants at San Jose and Vallecitos. A volume of 1.10E+2 m3 is radioactive sources from General Electric Vallecitos Plant, generated in 1974. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. The waste consists of irradiated fuel from R&D activities, both in complete assemblies or pins of irradiated fuel; and irradiated fuel fragments and resultant waste generated from irradiated fuel experiments and/or examinations, such as polishing residue, cutting fluids, absorbents, and metal fines. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **GE**

RL-T143

CONTAINER: **SWB**

Type/Size:

Container Mat: **steel**

Liner Type: **bag**

Number Stored:

Int. Vol/Ctnr: **1.9** m3

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 49.1 | 49.1 m3 |
| End of 1993: | 49.1 | 49.1 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 2.34E-02 | Curies/m3 |
| Pu239 | 9.18E-01 | Curies/m3 |
| Pu240 | 2.06E-01 | Curies/m3 |
| Pu241 | 2.32E+00 | Curies/m3 |
| Pu242 | 1.20E-05 | Curies/m3 |
| Am241 | 1.05E-01 | Curies/m3 |
| Sr90 | 6.19E-04 | Curies/m3 |
| Cs137 | 6.59E-04 | Curies/m3 |
| Y90 | 6.19E-04 | Curies/m3 |
| Ba137m | 6.24E-04 | Curies/m3 |
| U-enr | 4.46E-04 | Curies/m3 |
| U-nat | 2.53E-04 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **GE**

RL-T143

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Mat: **steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**
Liner Material: **HDPE**

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 4.2 | 5.7 m3 |
| End of 1993: | 4.2 | 5.7 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 1.74E-02 | Curies/m3 |
| Pu239 | 6.85E-01 | Curies/m3 |
| Pu240 | 1.54E-01 | Curies/m3 |
| Pu241 | 1.73E+00 | Curies/m3 |
| Pu242 | 8.97E-06 | Curies/m3 |
| Am241 | 7.81E-02 | Curies/m3 |
| Sr90 | 4.62E-04 | Curies/m3 |
| Cs137 | 4.92E-04 | Curies/m3 |
| Y90 | 4.62E-04 | Curies/m3 |
| Ba137m | 4.66E-04 | Curies/m3 |
| U-enr | 3.33E-04 | Curies/m3 |
| U-nat | 1.89E-04 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **GE, WARD**

| | | | | |
|--------------------------------|----------|-----------|--|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | GE Vallecitos and Ward TRU Waste |
| | WIPP ID | RL-T144 | | |
| | Local ID | RL-TB-144 | DESCRIPTION | This waste stream consists of TRU waste from the General Electric Plant at Vallecitos and waste from Ward. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☐
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **GE, WARD**

RL-T144

CONTAINER: **SWB**

Type/Size:

Container Matl: **steel**

Liner Type: **bag**

Number Stored:

Int. Vol/Ctnr: **1.9 m3**

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 313.0 | 313.0 m3 |
| End of 1993: | 313.0 | 313.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 3.00E-02 Curies/m3 |
| Pu239 | 1.18E+00 Curies/m3 |
| Pu240 | 2.65E-01 Curies/m3 |
| Pu241 | 2.98E+00 Curies/m3 |
| Pu242 | 1.54E-05 Curies/m3 |
| Am241 | 1.34E-01 Curies/m3 |
| Sr90 | 4.30E+01 Curies/m3 |
| Cs137 | 4.37E+01 Curies/m3 |
| Y90 | 4.30E+01 Curies/m3 |
| Ba137m | 4.14E+01 Curies/m3 |
| U-dep | 2.36E-04 Curies/m3 |
| U-enr | 1.32E-03 Curies/m3 |
| U-nat | 1.13E-04 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **GE, WARD**

RL-T144

CONTAINER: **Drum**

Container Mat: **steel**

Liner Type: **rigid**

Number Stored:

Type/Size: **55-gallon**

Int. Vol/Ctnr: **0.208 m3**

Liner Material: **HDPE**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | 76.3 | 103.0 | m3 |
| End of 1993: | 76.3 | 103.0 | m3 |
| 1994: | 0.0 | 0.0 | m3/yr |
| 1995: | 0.0 | 0.0 | m3/yr |
| 1996: | 0.0 | 0.0 | m3/yr |
| 1997: | 0.0 | 0.0 | m3/yr |
| 1998-2002: | 0.0 | 0.0 | m3/yr |
| 2003-2022: | 0.0 | 0.0 | m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 2.28E-02 | Curies/m3 |
| Pu239 | 8.96E-01 | Curies/m3 |
| Pu240 | 2.01E-01 | Curies/m3 |
| Pu241 | 2.26E+00 | Curies/m3 |
| Pu242 | 1.17E-05 | Curies/m3 |
| Am241 | 1.02E-01 | Curies/m3 |
| Sr90 | 3.26E+01 | Curies/m3 |
| Cs137 | 3.32E+01 | Curies/m3 |
| Y90 | 3.26E+01 | Curies/m3 |
| Ba137m | 3.14E+01 | Curies/m3 |
| U-dep | 1.79E-04 | Curies/m3 |
| U-enr | 1.01E-03 | Curies/m3 |
| U-nat | 8.55E-05 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **WARD**

| | | | | |
|--------------------------------|----------|--|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Ward TRU Waste |
| | WIPP ID | RL-T145 | | |
| | Local ID | RL-TB-145 | DESCRIPTION | This waste stream consists of TRU waste from Ward. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **WARD**

RL-T145

CONTAINER: **SWB**

Type/Size:

Container Matl: **steel**

Liner Type: **bag**

Number Stored:

Int. Vol/Ctnr: **1.9** m3

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 78.0 | 78.0 m3 |
| End of 1993: | 78.0 | 78.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 9.63E-04 | Curies/m3 |
| Pu239 | 3.78E-02 | Curies/m3 |
| Pu240 | 8.49E-03 | Curies/m3 |
| Pu241 | 9.55E-02 | Curies/m3 |
| Pu242 | 4.95E-07 | Curies/m3 |
| Am241 | 4.31E-03 | Curies/m3 |
| Sr90 | 1.28E-02 | Curies/m3 |
| Cs137 | 1.37E-02 | Curies/m3 |
| Y90 | 1.28E-02 | Curies/m3 |
| Ba137m | 1.30E-02 | Curies/m3 |
| U-dep | 2.35E-04 | Curies/m3 |
| U-enr | 4.66E-05 | Curies/m3 |
| U-nat | 6.93E-06 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **WARD**

RL-T145

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 22.0 | 29.7 m3 |
| End of 1993: | 22.0 | 29.7 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 7.13E-04 | Curies/m3 |
| Pu239 | 2.80E-02 | Curies/m3 |
| Pu240 | 6.29E-03 | Curies/m3 |
| Pu241 | 7.07E-02 | Curies/m3 |
| Pu242 | 3.67E-07 | Curies/m3 |
| Am241 | 3.19E-03 | Curies/m3 |
| Sr90 | 9.48E-03 | Curies/m3 |
| Cs137 | 1.02E-02 | Curies/m3 |
| Y90 | 9.48E-03 | Curies/m3 |
| Ba137m | 9.60E-03 | Curies/m3 |
| U-dep | 1.74E-04 | Curies/m3 |
| U-enr | 3.45E-05 | Curies/m3 |
| U-nat | 5.13E-06 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|--|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | 234 5Z High Pu238 TRU Waste |
| | WIPP ID | RL-T146 | | |
| | Local ID | RL-TB-146 | DESCRIPTION | This waste stream consists of TRU waste from the High Pu238 routed through the Plutonium Finishing Plant. Waste originated from an off-site R&D activity. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T146

CONTAINER: **SWB**

Container Matl: **steel**

Liner Type: **bag**

Number Stored:

Type/Size:

Int. Vol/Ctnr: **1.9 m3**

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 83.0 | 83.0 m3 |
| End of 1993: | 83.0 | 83.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 5.50E+02 | Curies/m3 |
| Pu239 | 2.08E+01 | Curies/m3 |
| Pu240 | 4.68E+00 | Curies/m3 |
| Pu241 | 5.26E+01 | Curies/m3 |
| Pu242 | 2.72E-04 | Curies/m3 |
| Am241 | 2.37E+00 | Curies/m3 |
| U-dep | 1.80E-06 | Curies/m3 |
| U-enr | 3.42E-05 | Curies/m3 |
| U-nat | 3.47E-06 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T146

CONTAINER: Drum

Type/Size: 55-gallon

Container Mat: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: rigid

Liner Material: HDPE

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 79.8 | 108.0 m3 |
| End of 1993: | 79.8 | 108.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 4.08E+02 | Curies/m3 |
| Pu239 | 1.54E+01 | Curies/m3 |
| Pu240 | 3.46E+00 | Curies/m3 |
| Pu241 | 3.89E+01 | Curies/m3 |
| Pu242 | 2.02E-04 | Curies/m3 |
| Am241 | 1.76E+00 | Curies/m3 |
| U-dep | 1.33E-06 | Curies/m3 |
| U-enr | 2.53E-05 | Curies/m3 |
| U-nat | 2.57E-06 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL** WASTE TYPE **TRU** HANDLING **RH** GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|--|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | 324 and 325 B Bldg Op TRU Caisson Waste |
| | WIPP ID | RL-T147 | | |
| | Local ID | RL-TB-147 | DESCRIPTION | This waste stream consists of TRU waste from the Chemical Engineering Building Laboratory and Hot Cells, and the Radiochemistry Building Shielded Area. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT **TRUCON CODE**

FINAL WASTE FORM DESCRIPTORS:

| | | | | | | | |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------|-------------------------------------|---------------|-------------------------------------|
| Defense TRU Waste | <input checked="" type="checkbox"/> | Mixed TRU | <input type="checkbox"/> | Research and Devel. Waste | <input type="checkbox"/> | TSCA Asbestos | <input type="checkbox"/> |
| Non-Defense TRU Waste | <input type="checkbox"/> | Non-Mixed TRU | <input checked="" type="checkbox"/> | Operations Waste | <input checked="" type="checkbox"/> | PCBs | <input type="checkbox"/> |
| Commercial TRU Waste | <input type="checkbox"/> | Suspect Mixed TRU | <input type="checkbox"/> | Residues | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unknown | <input type="checkbox"/> | Unknown | <input type="checkbox"/> | Decon and Decommissioning | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> |
| | | | | Environmental Restoration | <input type="checkbox"/> | Unknown | <input type="checkbox"/> |
| | | | | From Treatment of Waste | <input type="checkbox"/> | | |
| | | | | Maintenance | <input type="checkbox"/> | | |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **RH**

GENERATOR SITE **RL**

RL-T147

CONTAINER: RH Canister (for boxed waste)

Container Matl: Steel

Liner Type:

Number Stored:

Type/Size:

Int. Vol/Ctnr: 0.89/m3

Liner Material:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.5 | 0.5 m3 |
| End of 1993: | 0.5 | 0.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 2.30E+00 Curies/m3 |
| Pu239 | 1.44E+01 Curies/m3 |
| Pu240 | 7.19E+00 Curies/m3 |
| Pu241 | 4.51E+02 Curies/m3 |
| Pu242 | 2.05E-04 Curies/m3 |
| Sr90 | 6.46E+00 Curies/m3 |
| Cs137 | 6.89E+00 Curies/m3 |
| Y90 | 6.46E+00 Curies/m3 |
| Ba137m | 6.52E+00 Curies/m3 |
| U-dep | 2.37E-03 Curies/m3 |
| U-enr | 4.10E-02 Curies/m3 |
| U-nat | 9.61E-05 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **RH**

GENERATOR SITE **RL**

RL-T147

CONTAINER: **RH Canister (for drum waste)**

Container Matl: **Steel**

Liner Type:

Number Stored:

Type/Size:

Int. Vol/Ctnr: **0.89**m3

Liner Material:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 527.0 | | |
| Packaging Material, Plastic | 26.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.2 | 1.6 m3 |
| End of 1993: | 1.2 | 1.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 1.66E+00 | Curies/m3 |
| Pu239 | 1.04E+01 | Curies/m3 |
| Pu240 | 5.20E+00 | Curies/m3 |
| Pu241 | 3.26E+02 | Curies/m3 |
| Pu242 | 1.48E-04 | Curies/m3 |
| Sr90 | 4.67E+00 | Curies/m3 |
| Cs137 | 4.99E+00 | Curies/m3 |
| Y90 | 4.67E+00 | Curies/m3 |
| Ba137m | 4.72E+00 | Curies/m3 |
| U-dep | 1.71E-03 | Curies/m3 |
| U-enr | 2.96E-02 | Curies/m3 |
| U-nat | 6.95E-05 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

| | | | | |
|--------------------------------|----------|--|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | 327 C, L Oper High Activity TRU Waste |
| | WIPP ID | RL-T148 | | |
| | Local ID | RL-TB-148 | DESCRIPTION | This waste stream consists of typically contact-handled TRU waste from the Post Irradiation Test Laboratory. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some boxes. Boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☐
☒
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

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☐
☐
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☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T148

CONTAINER: **SWB**

Container Matl: **steel**

Liner Type: **bag**

Number Stored:

Type/Size:

Int. Vol/Ctnr: **1.9/m3**

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.8 | 0.8 m3 |
| End of 1993: | 0.8 | 0.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 8.29E-01 | Curies/m3 |
| Pu239 | 3.26E+01 | Curies/m3 |
| Pu240 | 7.31E+00 | Curies/m3 |
| Pu241 | 8.22E+01 | Curies/m3 |
| Pu242 | 4.26E-04 | Curies/m3 |
| Am241 | 3.71E+00 | Curies/m3 |
| Sr90 | 4.59E+01 | Curies/m3 |
| Cs137 | 5.00E+01 | Curies/m3 |
| Y90 | 4.59E+01 | Curies/m3 |
| Ba137m | 4.73E+01 | Curies/m3 |
| U-dep | 2.10E-02 | Curies/m3 |
| U-enr | 1.43E-01 | Curies/m3 |
| U-nat | 2.41E-04 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE RL

| | | | | |
|--------------------------------|--|-----------|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | 325 A R&D TRU Caisson Waste |
| | WIPP ID | RL-T149 | | |
| | Local ID | RL-TB-149 | DESCRIPTION | This waste stream consists of TRU waste from the Cesium Recovery Facility of the Radiochemistry Building. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☐
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **RH**

GENERATOR SITE **RL**

RL-T149

CONTAINER: **RH Canister (for box waste)**

Container Matl: **Steel**

Liner Type:

Number Stored:

Type/Size:

Int. Vol/Ctnr: **0.89** m3

Liner Material:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.4 m3 |
| End of 1993: | 0.4 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 2.87E-03 | Curies/m3 |
| Pu239 | 1.80E-02 | Curies/m3 |
| Pu240 | 8.99E-03 | Curies/m3 |
| Pu241 | 5.64E-01 | Curies/m3 |
| Pu242 | 2.56E-07 | Curies/m3 |
| Sr90 | 8.18E-03 | Curies/m3 |
| Cs137 | 8.74E-03 | Curies/m3 |
| Y90 | 8.18E-03 | Curies/m3 |
| Ba137m | 8.27E-03 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **RH**

GENERATOR SITE **RL**

RL-T149

CONTAINER: RH Canister (for drum waste)

Container Matl: **Steel**

Liner Type:

Number Stored:

Type/Size:

Int. Vol/Ctnr: **0.89** m3

Liner Material:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 527.0 | | |
| Packaging Material, Plastic | 26.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.3 | 0.4 m3 |
| End of 1993: | 0.3 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 2.13E-03 | Curies/m3 |
| Pu239 | 1.34E-02 | Curies/m3 |
| Pu240 | 6.66E-03 | Curies/m3 |
| Pu241 | 4.18E-01 | Curies/m3 |
| Pu242 | 1.90E-07 | Curies/m3 |
| Sr90 | 6.06E-03 | Curies/m3 |
| Cs137 | 6.47E-03 | Curies/m3 |
| Y90 | 6.06E-03 | Curies/m3 |
| Ba137m | 6.12E-03 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Upper and lower weights for final waste form are unknown.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME RL

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE RL

| | | | | |
|--------------------------------|--|-----------|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | 234 5Z High Activity TRU CH Waste |
| | WIPP ID | RL-T150 | | |
| | Local ID | RL-TB-150 | DESCRIPTION | This waste stream consists of TRU waste from the Plutonium Finishing Plant that is relatively high in fission product activity. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☐
☒
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T150

CONTAINER: **SWB**

Type/Size:

Container Matl: **steel**

Liner Type: **bag**

Number Stored:

Int. Vol/Ctnr: **1.9** m3

Liner Material: **plastic**

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 706.7 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 168.9 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 39.4 | 0.0 | 0.0 |
| Cellulosics | 11.4 | 0.0 | 0.0 |
| Rubber | 0.3 | 0.0 | 0.0 |
| Plastics | 24.2 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 4.4 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 154.0 | | |
| Packaging Material, Plastic | 1.2 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 127.0 | 127.0 m3 |
| End of 1993: | 127.0 | 127.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 2.43E-01 | Curies/m3 |
| Pu239 | 9.55E+00 | Curies/m3 |
| Pu240 | 2.14E+00 | Curies/m3 |
| Pu241 | 2.41E+01 | Curies/m3 |
| Pu242 | 1.25E-04 | Curies/m3 |
| Am241 | 1.09E+00 | Curies/m3 |
| Sr90 | 3.53E-02 | Curies/m3 |
| Cs137 | 3.77E-02 | Curies/m3 |
| Y90 | 3.53E-02 | Curies/m3 |
| Ba137m | 3.57E-02 | Curies/m3 |
| U-dep | 8.79E-07 | Curies/m3 |
| U-enr | 8.29E-05 | Curies/m3 |
| U-nat | 6.50E-07 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **RL**

RL-T150

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **rigid**

Liner Material: **HDPE**

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 552.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 87.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 43.0 | 0.0 | 0.0 |
| Cellulosics | 105.0 | 0.0 | 0.0 |
| Rubber | 45.0 | 0.0 | 0.0 |
| Plastics | 107.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 15.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 37.0 | | |

Comments

Upper and lower weights for final waste form are unknown.

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 122.0 | 164.0 m3 |
| End of 1993: | 122.0 | 164.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL EPA CODES APPLICABLE

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 1.80E-01 | Curies/m3 |
| Pu239 | 7.07E+00 | Curies/m3 |
| Pu240 | 1.59E+00 | Curies/m3 |
| Pu241 | 1.79E+01 | Curies/m3 |
| Pu242 | 9.25E-05 | Curies/m3 |
| Am241 | 8.06E-01 | Curies/m3 |
| Sr90 | 2.62E-02 | Curies/m3 |
| Cs137 | 2.79E-02 | Curies/m3 |
| Y90 | 2.62E-02 | Curies/m3 |
| Ba137m | 2.64E-02 | Curies/m3 |
| U-dep | 6.51E-07 | Curies/m3 |
| U-enr | 6.14E-05 | Curies/m3 |
| U-nat | 4.81E-07 | Curies/m3 |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **RL**

WASTE TYPE **TRU**

HANDLING **RH**

GENERATOR SITE **RL**

| | | | | |
|----------------------------|----------|------------------|---|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Projected RH-TRU Waste |
| | WIPP ID | RL-T202 | | |
| | Local ID | RL-TB-202 | DESCRIPTION | The waste stream consists of projected TRU waste from 1994 to 2022. A major portion of the projected waste is from facility transition activities at former fuel reprocessing facilities at the Hanford Site. |
| MATRIX CODE | | 5400 | | |
| SITE FINAL FORM IDC | | 001 | | |
| Waste Matrix Code Group | | | Heterogeneous | |
| Site Matrix Description | | | The waste includes wood, plastics, paper, absorbents, failed machinery, tools, glass, concrete, plumbing, fixtures, and soils. The composition will vary from each container. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
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☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
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TSCA Asbestos
PCBs
Other
N/A
Unknown

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☐

SITE NAME RL

WASTE TYPE TRU

HANDLING RH

Page RL-T202 - 2

RL-T202

CONTAINER: RH Canister
Type/Size: RH Canister

Container Mat: Steel
Int. Vol/Ctnr: 0.89 m3

Liner Type:
Liner Material:

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 17.0 | 0.7 | 410.0 |
| Aluminum-Based Metals/Alloys | 4.0 | 0.2 | 110.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulose | 27.0 | 0.0 | 481.0 |
| Rubber | 11.0 | 0.0 | 139.0 |
| Plastics | 28.0 | 1.8 | 456.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 7.0 | 0.4 | 193.0 |
| Packaging Materials, Steel | 435.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 2.0 | 2.0 m3/yr |
| 1995: | 103.0 | 103.0 m3/yr |
| 1996: | 39.0 | 39.0 m3/yr |
| 1997: | 2.0 | 2.0 m3/yr |
| 1998-2002: | 16.0 | 16.0 m3/yr |
| 2003-2022: | 51.0 | 51.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|-----------|
| Pu239 | Curies/m3 |
| Pu240 | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |
| Cs137 | Curies/m3 |
| Ba137m | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Activity for these radionuclides is unknown.

Footnotes

An additional 11,861 m3 of "suspect" nonmixed RH-TRU waste has been reported by Hanford in the data submittals. Sufficient information is currently unavailable on the processes that are anticipated to generate this waste, to ascertain if this waste would be eligible for disposal in WIPP as RH-TRU. Additional information has been requested from Hanford to resolve this issue in Revision 2 of the WTWBIR.

**SANDIA NATIONAL LABORATORIES/NEW MEXICO (SA)
WASTE STREAM PROFILES**

The following modifications were made by the WTWBIR team in developing the SA waste stream profiles:

- Final Waste Form Groups were not provided by SA. In order to permit roll-ups of the data, the WTWBIR team assigned Final Waste Form Groups based on the descriptions and parameters provided by SA.
- ITRI waste stream(s) are included in the SA submittal.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME SA

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE IT

| | | | | |
|--------------------------------|-------------------------|---------|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Lovelace ITRI Waste Stream |
| | WIPP ID | SA-T001 | | |
| | Local ID | None | DESCRIPTION | Heterogeneous mixture of metals and combustible lab trash including stainless steel foil, brass and aluminum parts, paper, plastics, rubber gloves and glass. There are no liquids. |
| MATRIX CODE | | 8900 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | Waste is in final form. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
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☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
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☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
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☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME SA

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE IT

SA-T001

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material: PVC

Number Stored:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 20.0 | 10.0 | 30.0 |
| Aluminum-Based Metals/Alloys | 3.0 | 1.0 | 5.0 |
| Other Metals | 6.0 | 2.0 | 10.0 |
| Other Inorganic Materials | 15.0 | 10.0 | 20.0 |
| Cellulosics | 3.0 | 1.0 | 5.0 |
| Rubber | 3.0 | 1.0 | 5.0 |
| Plastics | 4.0 | 2.0 | 6.0 |
| Solidified, Inorganic matrix | 40.0 | 20.0 | 60.0 |
| Solidified, Organic matrix | 3.0 | 1.0 | 5.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 80.0 | | |
| Packaging Material, Plastic | 10.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 7.0 | 7.0 m3 |
| End of 1993: | 7.0 | 7.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 5.0 | 5.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.2 | 0.2 m3/yr |
| 2003-2022: | 0.1 | 0.1 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Am241 | 2.50E-01 | Curies/m3 |
| Cm244 | 8.00E-01 | Curies/m3 |
| Pu239 | 5.00E-01 | Curies/m3 |
| Np237 | 1.20E-02 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Weights and volumes of individual lab trash items are estimated based on information available.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME SA

WASTE TYPE ☐ MTRU

HANDLING ☐ CH

GENERATOR SITE SA

| | | | |
|----------------------------|-----------------|--|--|
| WASTE STREAM | MWIR ID SA-W134 | STREAM NAME | Transuranic Waste at Hot Cell Facility |
| | WIPP ID SA-W134 | | |
| | Local ID none | DESCRIPTION | |
| MATRIX CODE | 8900 | Predominately metal lab trash including saw blades, copper & brass fittings. Balance of waste is combustible lab trash including rubber gloves and Tygon tubing. There are no liquids. | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | | Heterogeneous | |
| Site Matrix Description | | Waste is in final form. | |
| | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
☐
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☐
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☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME SA

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE SA

SA-W134

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: steel
Int. Vol/Ctnr: 0.208 m3

Liner Type:
Liner Material: PVC

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 2.0 | 1.0 | 3.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 2.0 | 1.0 | 3.0 |
| Other Inorganic Materials | 1.0 | 1.0 | 1.0 |
| Cellulosics | 2.0 | 1.0 | 3.0 |
| Rubber | 2.0 | 1.0 | 3.0 |
| Plastics | 2.0 | 1.0 | 3.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 80.0 | | |
| Packaging Material, Plastic | 10.0 | | |

STORED TRU WASTE ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.0 | 1.0 m3 |
| End of 1993: | 1.0 | 1.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Am241 | 1.00E-02 | Curies/m3 |
| Pu239 | 5.00E-06 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

UNK

Comments

Weights and volumes of individual lab trash items are based on current information available.

SAVANNAH RIVER SITE (SR) WASTE STREAM PROFILES

The following modifications were made by the WTWBIR team in developing the SR waste stream profiles:

- SR Final Waste Form Groups were modified to be consistent with the nomenclature used in the WTWBID. These changes included word and spelling changes. The assigned Final Waste Form Groups are consistent with the information provided by SR.
- SR provided total projections for the years 1993 to 2022 instead of annual waste generation rates. The WTWBIR team modified the site data by dividing the SR total projections equally across the years 1993 to 2022. This was necessary to maintain consistency with the other sites and to roll-up the volumes correctly. The years to which the volumes are assigned may not be meaningful.
- An RH-TRU waste stream has been compiled from IDB volumes and information from SR to make the RH-TRU in the WTWBIR consistent with that in the IDB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **SR**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **SR**

| | | | | |
|--------------------------------|----------|---------------------|--------------------|---------------------------------|
| WASTE STREAM | MWIR ID | | STREAM NAME | |
| | WIPP ID | SR-T001 | | |
| | Local ID | | DESCRIPTION | Non-mixed TRU derived from IDB. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Solidified Organics | | |
| Site Matrix Description | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **SR**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **SR**

SR-T001

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type:
Liner Material:

Number Stored: **973**
Number Projected: **2130**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 548.1 | 206.7 | 673.1 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 394.2 | 149.0 | 485.6 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 198.2 | 396.4 m3 |
| End of 1993: | 202.4 | 404.8 m3 |
| 1994: | 4.2 | 8.3 m3/yr |
| 1995: | 4.2 | 8.3 m3/yr |
| 1996: | 4.2 | 8.3 m3/yr |
| 1997: | 4.2 | 8.3 m3/yr |
| 1998-2002: | 4.2 | 8.3 m3/yr |
| 2003-2022: | 4.2 | 8.3 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 5.98E+01 | Curies/m3 |
| Pu239 | 1.05E+00 | Curies/m3 |
| Pu240 | 2.60E-01 | Curies/m3 |
| Pu241 | 1.25E+01 | Curies/m3 |
| Am241 | 1.70E+00 | Curies/m3 |
| Others | 1.00E-02 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Other radionuclides present - activity is reported as less than 0.01 curies/m3

Footnotes

Numbers of containers in storage is from "End of 1993 Projected" numbers (202.35 m3 = 973 drums). Number of projected containers equals 973 drums from repackaging of stored waste to final form plus the number of containers from final form of newly generated waste (1157 drums).

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **SR**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **SR**

| | | | | |
|--------------------------------|----------|----------------|--------------------|--------------------------------|
| WASTE STREAM | MWIR ID | | STREAM NAME | |
| | WIPP ID | SR-T002 | | |
| | Local ID | | DESCRIPTION | Non-mixed TRU derled from IDB. |
| MATRIX CODE | | | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | | Combustible | | |
| Site Matrix Description | | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
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☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **SR**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **SR**

SR-T002

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: steel

Int. Vol/Ctnr: 0.208 m3

Liner Type:

Liner Material:

Number Stored: 19552

Number Projected: 57512

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 2.9 | 0.0 | 7.2 |
| Cellulosics | 575.6 | 105.8 | 961.5 |
| Rubber | 55.2 | 55.2 | 163.5 |
| Plastics | 165.6 | 105.8 | 288.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------|
| End of 1992: | 3654.3 | 3654.3 m3 |
| End of 1993: | 4066.8 | 4066.8 m3 |
| 1994: | 412.5 | 412.5 m3/yr |
| 1995: | 412.5 | 412.5 m3/yr |
| 1996: | 412.5 | 412.5 m3/yr |
| 1997: | 412.5 | 412.5 m3/yr |
| 1998-2002: | 412.5 | 412.5 m3/yr |
| 2003-2022: | 412.5 | 412.5 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| Pu238 | 5.98E+01 Curies/m3 |
| Pu239 | 1.05E+00 Curies/m3 |
| Pu240 | 2.80E-01 Curies/m3 |
| Pu241 | 1.25E+01 Curies/m3 |
| Am241 | 1.70E+00 Curies/m3 |
| Others | 1.00E-02 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

Other radionuclides present - activity is reported as less than 0.01 curies/m3.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME SR

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE SR

| | | |
|--------------------------------|---|---|
| WASTE STREAM | MWIR ID TS-01 | STREAM NAME RH TRU Waste |
| | WIPP ID SR-T003 | |
| | Local ID 049/050 | DESCRIPTION Heterogeneous Debris generated from the SRTC High Level Caves. |
| MATRIX CODE | 5400 | |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group | Heterogeneous | |
| Site Matrix Description | This waste is generated primarily through research activities from on-site laboratories. This waste stream is primarily solids consisting of labware, rags, and other job controlled waste. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☒
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☐
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

Footnotes

This waste stream has been created for the WTWBIR by the WTWBIR to be consistent with Draft Rev. 10 of the IDB.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **SR**

WASTE TYPE **TRU**

HANDLING **RH**

GENERATOR SITE **SR**

SR-T003

CONTAINER: **Drum**
Type/Size:

Container Matl: **Steel**
Int. Vol/Ctnr: **0.208**m3

Liner Type:
Liner Material:

Number Stored: **0**
Number Projected: **0**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 2.9 | 0.0 | 7.2 |
| Cellulosics | 575.6 | 105.8 | 981.5 |
| Rubber | 55.2 | 55.2 | 163.5 |
| Plastics | 165.6 | 105.8 | 288.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.0 | 0.0 m3 |
| End of 1993: | 0.0 | 0.0 m3 |
| 1994: | 2.0 | 4.0 m3/yr |
| 1995: | 1.1 | 2.1 m3/yr |
| 1996: | 1.1 | 2.1 m3/yr |
| 1997: | 1.1 | 2.1 m3/yr |
| 1998-2002: | 1.1 | 2.1 m3/yr |
| 2003-2022: | 1.1 | 2.2 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|--------------------|
| SR90 | 3.28E+00 Curies/m3 |
| Y90 | 3.28E+00 Curies/m3 |
| Cs137 | 3.28E+00 Curies/m3 |
| Ba137m | 3.10E+00 Curies/m3 |
| Pm147 | 8.13E-01 Curies/m3 |
| Pu238 | 1.69E-01 Curies/m3 |
| Cm244 | 2.43E+00 Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Footnotes

For this waste stream profile the generation of this waste stream has been projected to 2022, two more years than in the Draft IDB, Rev. 10.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **SR**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **SR**

| | | | |
|--------------------------------|--|--------------------|------------------|
| WASTE STREAM | MWIR ID SR-W006 | STREAM NAME | Organic liquids |
| | WIPP ID SR-W006 | | |
| | Local ID | DESCRIPTION | Mixed TTA/Xylene |
| MATRIX CODE | 2000 | | |
| SITE FINAL FORM IDC | | | |
| Waste Matrix Code Group | Solidified Organics | | |
| Site Matrix Description | Laboratory waste from plutonium extractions generated in the Savannah River Technology Center (SRTC) 773-A Facility. Homogeneous, liquid, flammable, xylene-based chelating agent. TTA - Thenoyl trifluoroacetone. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒
☐
☐
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
☐
☐
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒
☐
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **SR**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **SR**

SR-W006

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type:

Liner Material:

Number Stored: **1**

Number Projected: **0**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 548.1 | 206.7 | 673.1 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 394.2 | 149.0 | 485.6 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.03 | 0.05 m3 |
| End of 1993: | 0.03 | 0.05 m3 |
| 1994: | 0.00 | 0.00 m3/yr |
| 1995: | 0.00 | 0.00 m3/yr |
| 1996: | 0.00 | 0.00 m3/yr |
| 1997: | 0.00 | 0.00 m3/yr |
| 1998-2002: | 0.00 | 0.00 m3/yr |
| 2003-2022: | 0.00 | 0.00 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|-----------|
| Pu239 | Curies/m3 |
| Am241 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D001A

Footnotes

SRS reported the following activities: Pu239 10E+05 microcuries/gram; Am241 10E+03 dpm/m

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **SR**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **SR**

| | | |
|--|-------------------------|---|
| WASTE STREAM | MWIR ID SR-W026 | STREAM NAME Heterogeneous Debris |
| | WIPP ID SR-W026 | |
| | Local ID 049/050 | DESCRIPTION Thirde TRU Waste |
| MATRIX CODE | 5400 | |
| SITE FINAL FORM IDC | | |
| Waste Matrix Code Group Heterogeneous | | |
| Site Matrix Description 200 Areas (F and H Separations Facilities). This waste is primarily solids consisting of mainly booties, lab coats, floor sweepings, rags, labware, and other job control wastes. This waste is generated primarily through separation activities in the course of plutonium production, includes small amounts of TRU waste from on site laboratories. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **SR**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **SR**

SR-W026

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **steel**
Int. Vol/Ctnr: **0.208** m3

Liner Type:
Liner Material:

Number Stored: **534**
Number Projected: **12859**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 2.9 | 0.0 | 7.2 |
| Cellulosics | 575.6 | 105.8 | 961.5 |
| Rubber | 55.2 | 55.2 | 163.5 |
| Plastics | 165.6 | 105.8 | 288.5 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

Comments

Other radionuclides present - activity is reported as less than 0.01 curies/m3.

Footnotes

Number of containers in storage is from "End of 1993 Projected" numbers (111.1 m3 = 534 drums). Number of projected containers equals 534 drums from repackaging of stored waste to final form plus the number of containers from final form of newly generated waste (12325 drums).

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 66.9 | 133.8 m3 |
| End of 1993: | 111.1 | 222.2 m3 |
| 1994: | 44.2 | 88.4 m3/yr |
| 1995: | 44.2 | 88.4 m3/yr |
| 1996: | 44.2 | 88.4 m3/yr |
| 1997: | 44.2 | 88.4 m3/yr |
| 1998-2002: | 44.2 | 88.4 m3/yr |
| 2003-2022: | 44.2 | 88.4 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|---------|----------|-----------|
| Pu238 | 5.98E+01 | Curies/m3 |
| Pu239 | 1.05E+00 | Curies/m3 |
| Pu240 | 2.60E-01 | Curies/m3 |
| Pu241 | 1.25E+01 | Curies/m3 |
| Am241 | 1.70E+00 | Curies/m3 |
| Others | 1.00E-02 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D001C
D003D
D004A
D006A
D007A
D008A
D009A
D011A
D018
D019
D022
D023
D024
D025
D026
P012

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME SR

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE SR

P015
P048
P113
P120
U002
U032
U052
U080
U133
U134
U144
U151c
U154
U161
U209
U211
U220
U226
U239

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME SR

WASTE TYPE ☒ MTRU

HANDLING ☒ CH

GENERATOR SITE SR

| | | | | | |
|--------------------------------|----------|---|--------------------|----------------------|-------------------|
| WASTE STREAM | MWIR ID | SR-W027 | STREAM NAME | Heterogeneous Debris | |
| | WIPP ID | SR-W027 | | DESCRIPTION | Solvent TRU Waste |
| | Local ID | 049/050 | | | |
| MATRIX CODE | | 5400 | | | |
| SITE FINAL FORM IDC | | | | | |
| Waste Matrix Code Group | | Heterogeneous | | | |
| Site Matrix Description | | 200 Areas (F and H Separations Facilities). This waste is generated primarily through separation activities in the course of plutonium production and includes small amounts of TRU waste from on site laboratories. This waste stream is primarily solids consisting of booties, lab coats, floor sweepings, labware, rags, and other job control waste. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☐
☒

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐

☒

1-570003-1

1881-1882-1883

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July

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4.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **SR**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **SR**

| | | | | |
|--------------------------------|--|---------|--------------------|-----------------------------|
| WASTE STREAM | MWIR ID | SR-W053 | STREAM NAME | Ash |
| | WIPP ID | SR-W053 | | |
| | Local ID | | DESCRIPTION | Rocky Flats Incinerator Ash |
| MATRIX CODE | | 3111 | | |
| SITE FINAL FORM IDC | | | | |
| Waste Matrix Code Group | Solidified Inorganics | | | |
| Site Matrix Description | Ash from the Rocky Flats incinerator was sent to SRS for plutonium recovery research purposes. It is stored in a satellite area in 235-F. The sample material was sent to SRS to investigate possible flow sheets for the recovery of SNM (plutonium). The ash was classified as waste by the Colorado Court System and the flow sheet experiments were cancelled. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☒

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☒

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **SR**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **SR**

SR-W053

CONTAINER: **Drum**

Container Matl: **steel**

Liner Type:

Number Stored: **0**

Type/Size: **55-gallon**

Int. Vol/Ctnr: **0.208 m3**

Liner Material:

Number Projected: **0**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 489.0 | 28.8 | 754.8 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 208.9 | 101.0 | 519.2 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.02 | 0.04 m3 |
| End of 1993: | 0.02 | 0.04 m3 |
| 1994: | 0.00 | 0.00 m3/yr |
| 1995: | 0.00 | 0.00 m3/yr |
| 1996: | 0.00 | 0.00 m3/yr |
| 1997: | 0.00 | 0.00 m3/yr |
| 1998-2002: | 0.00 | 0.00 m3/yr |
| 2003-2022: | 0.00 | 0.00 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|---------|-----------|
| Pu239 | Curies/m3 |

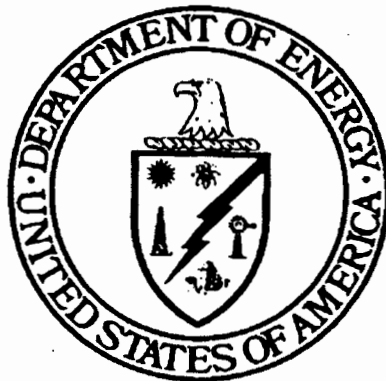
TYPICAL EPA CODES APPLICABLE

D004A
 D005A
 D006A
 D007A
 D008A
 D009A
 D010A
 D011A
 F001
 F002
 F005X

Footnotes

Pu239 activity reported as 10E+05 microcuries/gram

Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report



February 1995

**Prepared by WIPP Technical Assistance Contractor
for U.S. Department of Energy
under Contract No. DE-AC04-93AL-96904**

Volume 3

APPENDIX B

Site-Specific Contact Handled Waste Profiles

Site Name: AMES LAB

Final Waste Form: Solidified Inorganics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| AL-W005 | 0 | 0.1 | 0.1 |
| Total Volume: | 0.00 | 0.10 | 0.10 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 528.8 | 394.2 | 173.1 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 528.6 | 399.0 | 173.1 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

28-Feb-95

CAO-94-1005, Revision 1

February 1995

Site-Specific Contact Handled Waste Profiles

Site Name: ANL-E

Final Waste Form: Lead/Cadmium Metal Waste

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| AE-W041 | 0.7 | 0 | 0.7 |
| AE-W042 | 0.4 | 0 | 0.4 |
| Total Volume: | 1.10 | 0.00 | 1.10 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 256.1 | 93.1 | 0.0 |
| | Aluminum Based | 27.8 | 10.1 | 0.0 |
| | Other Metals | 913.5 | 201.7 | 24.7 |
| | Other Inorganics | 29.3 | 10.7 | 0.0 |
| Organics | Cellulose | 45.3 | 2.7 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 67.6 | 5.5 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: ANL-E

Final Waste Form: Solidified Inorganics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| AE-T001 | 17.96 | 0.56 | 18.52 |
| AE-W038 | 4.685 | 0.56 | 5.245 |
| AE-W040 | 0.4 | 0 | 0.4 |
| Total Volume: | 23.05 | 1.12 | 24.17 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 528.8 | 105.9 | 101.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 528.8 | 219.3 | 168.3 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

28-Feb-95

CAO-94-1005, Revision 1

February 1995

Site-Specific Contact Handled Waste Profiles

Site Name: ANL-E

Final Waste Form: Solidified Organics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| AE-W039 | 0.025 | 0 | 0.025 |
| Total Volume: | 0.03 | 0.00 | 0.03 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 548.1 | 351.0 | 28.8 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 726.0 | 346.2 | 101.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: ANL-E

Final Waste Form: Uncategorized Metal

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| AE-T003 | 4.96 | 0.56 | 5.52 |
| Total Volume: | 4.96 | 0.56 | 5.52 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 913.5 | 302.9 | 76.9 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: ANL-W

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| AW-T001 | 0 | 3.36 | 3.36 |
| Total Volume: | 0.00 | 3.36 | 3.36 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 337.3 | 162.5 | 141.3 |
| | Aluminum Based | 49.7 | 29.8 | 27.9 |
| | Other Metals | 35.0 | 4.5 | 0.1 |
| | Other Inorganics | 56.4 | 19.0 | 13.4 |
| Organics | Cellulose | 552.7 | 275.5 | 58.9 |
| | Rubber | 133.3 | 36.4 | 28.5 |
| | Plastics | 290.1 | 114.5 | 62.5 |
| Solidified Materials | Inorganic | 4.9 | 2.6 | 2.5 |
| | Organic | 2.7 | 0.2 | 0.1 |
| Soils | | 8.9 | 2.7 | 2.4 |

Site-Specific Contact Handled Waste Profiles

Site Name: ANL-W

Final Waste Form: Lead/Cadmium Metal Waste

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| AW-M001 | 0 | 1.9 | 1.9 |
| AW-M002 | 0.02 | 0.58 | 0.6 |
| Total Volume: | 0.02 | 2.48 | 2.50 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.9 | 0.2 | 0.0 |
| | Aluminum Based | 0.1 | 0.0 | 0.0 |
| | Other Metals | 145.0 | 121.1 | 3.2 |
| | Other Inorganics | 320.9 | 39.9 | 0.0 |
| Organics | Cellulose | 264.0 | 202.5 | 3.8 |
| | Rubber | 190.4 | 23.6 | 0.0 |
| | Plastics | 28.7 | 13.6 | 1.0 |
| Solidified Materials | Inorganic | 237.0 | 180.7 | 2.5 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 1.2 | 0.1 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: BT

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| BT-T002 | 0 | 15.2 | 15.2 |
| BT-T003 | 0 | 108.2 | 108.2 |
| BT-T004 | 0 | 0.208 | 0.208 |
| BT-T005 | 0 | 0.208 | 0.208 |
| Total Volume: | 0.00 | 123.82 | 123.82 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 700.0 | 301.8 | 0.0 |
| | Aluminum Based | 40.0 | 4.3 | 0.0 |
| | Other Metals | 10.0 | 0.1 | 0.0 |
| | Other Inorganics | 40.0 | 14.1 | 0.0 |
| Organics | Cellulose | 20.0 | 7.1 | 0.0 |
| | Rubber | 10.0 | 0.9 | 0.0 |
| | Plastics | 40.0 | 4.3 | 0.0 |
| Solidified Materials | Inorganic | 4.8 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 10.0 | 0.1 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: ETEC

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| ET-T001 | 1.66 | 5.2 | 6.86 |
| Total Volume: | 1.66 | 5.20 | 6.86 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 130.0 | 95.5 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 300.0 | 34.8 | 0.0 |
| | Other Inorganics | 2100.0 | 1549.0 | 5.0 |
| Organics | Cellulose | 30.0 | 3.9 | 0.0 |
| | Rubber | 30.0 | 3.9 | 0.0 |
| | Plastics | 250.0 | 27.3 | 0.0 |
| Solidified Materials | Inorganic | 60.0 | 21.2 | 0.0 |
| | Organic | 400.0 | 49.4 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: ETEC

Final Waste Form: Lead/Cadmium Metal Waste

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| ET-M001 | 0.21 | 0 | 0.21 |
| Total Volume: | 0.21 | 0.00 | 0.21 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 185.0 | 185.0 | 185.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

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Site-Specific Contact Handled Waste Profiles

Site Name: HANFORD

Final Waste Form: Combustible

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RL-M009 | 19.22 | 239.904 | 259.124 |
| RL-M010 | 0.42 | 5.505 | 5.925 |
| RL-M011 | 0.84 | 10.445 | 11.285 |
| RL-M012 | 0.21 | 2.743 | 2.953 |
| RL-M013 | 0.62 | 7.702 | 8.322 |
| RL-M014 | 4.6 | 57.781 | 62.381 |
| RL-M015 | 15.1 | 189.267 | 204.367 |
| RL-M016 | 1.67 | 20.915 | 22.585 |
| RL-T026 | 116.1 | 2810.303 | 2926.403 |
| RL-T029 | 367.7 | 8924.462 | 9292.162 |
| Total Volume: | 526.48 | 12269.03 | 12795.51 |

Site-Specific Contact Handled Waste Profiles

Site Name: HANFORD

Final Waste Form: Combustible

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 1048.3 | 25.9 | 0.0 |
| | Aluminum Based | 1048.3 | 6.5 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 480.8 | 21.0 | 0.0 |
| | Rubber | 211.2 | 10.6 | 0.0 |
| | Plastics | 456.1 | 26.1 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 192.7 | 5.7 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: HANFORD

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RL-M004 | 4.2 | 565.392 | 569.592 |
| RL-M006 | 1.63 | 254.063 | 255.693 |
| RL-M031 | 0.63 | 7.702 | 8.332 |
| RL-T101 | 450 | 0 | 450 |
| RL-T102 | 210.45 | 0 | 210.45 |
| RL-T104 | 4.95 | 0 | 4.95 |
| RL-T105 | 63.5 | 0 | 63.5 |
| RL-T106 | 8.07 | 0 | 8.07 |
| RL-T107 | 4250 | 0 | 4250 |
| RL-T108 | 28.3 | 0 | 28.3 |
| RL-T109 | 15.42 | 0 | 15.42 |
| RL-T110 | 402.9 | 0 | 402.9 |
| RL-T111A | 10.6 | 0 | 10.6 |
| RL-T112 | 101.4 | 0 | 101.4 |
| RL-T113 | 31 | 0 | 31 |
| RL-T114 | 19.81 | 0 | 19.81 |
| RL-T115 | 710 | 0 | 710 |
| RL-T116 | 10.63 | 0 | 10.63 |
| RL-T117 | 0.142 | 0 | 0.142 |
| RL-T118 | 324.5 | 0 | 324.5 |
| RL-T119 | 0.765 | 0 | 0.765 |
| RL-T120 | 79.1 | 0 | 79.1 |
| RL-T122 | 13.325 | 0 | 13.325 |

Site-Specific Contact Handled Waste Profiles**Site Name: HANFORD****Final Waste Form: Heterogeneous**

| | | | |
|---------|-------|---|-------|
| RL-T123 | 0.155 | 0 | 0.155 |
| RL-T124 | 0.566 | 0 | 0.566 |
| RL-T125 | 12.77 | 0 | 12.77 |
| RL-T127 | 232.7 | 0 | 232.7 |
| RL-T128 | 0.43 | 0 | 0.43 |
| RL-T129 | 10.1 | 0 | 10.1 |
| RL-T130 | 11.8 | 0 | 11.8 |
| RL-T131 | 35.2 | 0 | 35.2 |
| RL-T132 | 0.849 | 0 | 0.849 |
| RL-T133 | 28.7 | 0 | 28.7 |
| RL-T134 | 0.143 | 0 | 0.143 |
| RL-T135 | 0.287 | 0 | 0.287 |
| RL-T136 | 0.141 | 0 | 0.141 |
| RL-T137 | 135 | 0 | 135 |
| RL-T138 | 40.9 | 0 | 40.9 |
| RL-T139 | 146 | 0 | 146 |
| RL-T140 | 9.27 | 0 | 9.27 |
| RL-T141 | 100 | 0 | 100 |
| RL-T142 | 0.85 | 0 | 0.85 |
| RL-T143 | 54.82 | 0 | 54.82 |
| RL-T144 | 416 | 0 | 416 |
| RL-T145 | 107.7 | 0 | 107.7 |
| RL-T146 | 191 | 0 | 191 |
| RL-T148 | 0.847 | 0 | 0.847 |
| RL-T150 | 291 | 0 | 291 |

Site-Specific Contact Handled Waste Profiles

Site Name: HANFORD

Final Waste Form: Heterogeneous

| | | | |
|----------------------|----------------|---------------|----------------|
| Total Volume: | 8568.55 | 827.16 | 9395.71 |
|----------------------|----------------|---------------|----------------|

| <u>Material Parameters (kg/m3)</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|----------------|----------------|----------------|
| Inorganics | | | |
| Iron Based | 706.7 | 561.8 | 0.0 |
| Aluminum Based | 168.9 | 110.3 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganics | 43.0 | 37.8 | 0.0 |
| Organics | | | |
| Cellulose | 105.0 | 61.3 | 0.0 |
| Rubber | 91.4 | 24.9 | 0.0 |
| Plastics | 107.0 | 66.4 | 0.0 |
| Solidified Materials | | | |
| Inorganic | 15.0 | 9.7 | 0.0 |
| Organic | 0.0 | 0.0 | 0.0 |
| Soils | 18.0 | 9.6 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: HANFORD

Final Waste Form: Lead/Cadmium Metal Waste

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RL-M019 | 1.25 | 0.116 | 1.366 |
| RL-M020 | 1.88 | 0.174 | 2.054 |
| Total Volume: | 3.13 | 0.29 | 3.42 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 940.4 | 226.6 | 0.1 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 67.3 | 11.4 | 0.1 |
| | Rubber | 123.8 | 43.8 | 11.2 |
| | Plastics | 86.7 | 28.6 | 1.2 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 77.0 | 23.6 | 7.2 |

Site-Specific Contact Handled Waste Profiles

Site Name: HANFORD

Final Waste Form: Soils

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RL-M007 | 11.86 | 37.095 | 48.955 |
| RL-T028 | 0.63 | 272.175 | 272.805 |
| RL-T103 | 99.2 | 0 | 99.2 |
| Total Volume: | 111.69 | 309.27 | 420.96 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 38.8 | 2.7 | 0.0 |
| | Aluminum Based | 38.8 | 0.7 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 67.3 | 14.0 | 0.0 |
| | Rubber | 210.4 | 3.5 | 0.0 |
| | Plastics | 132.2 | 64.5 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 603.4 | 404.6 | 98.6 |

Site-Specific Contact Handled Waste Profiles

Site Name: HANFORD

Final Waste Form: Solidified Inorganics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RL-M032 | 0.21 | 32.462 | 32.672 |
| RL-T027 | 1.25 | 2892.297 | 2893.547 |
| Total Volume: | 1.46 | 2924.76 | 2926.22 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 153.9 | 26.7 | 0.0 |
| | Aluminum Based | 153.9 | 6.7 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 77.5 | 5.3 | 1.4 |
| | Rubber | 11.1 | 5.0 | 0.0 |
| | Plastics | 50.5 | 12.7 | 0.0 |
| Solidified Materials | Inorganic | 192.0 | 72.3 | 72.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: HANFORD

Final Waste Form: Solidified Organics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RL-M017 | 0.28 | 1.979 | 2.259 |
| RL-M018 | 1.89 | 13.269 | 15.159 |
| Total Volume: | 2.17 | 15.25 | 17.42 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 42.9 | 21.0 | 8.6 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 121.1 | 93.8 | 18.9 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 83.2 | 39.2 | 32.6 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: HANFORD

Final Waste Form: Uncategorized Metal

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RL-M001 | 7.14 | 963.725 | 970.865 |
| RL-M002 | 11.34 | 1529.117 | 1540.457 |
| RL-M003 | 3.17 | 424.039 | 427.209 |
| RL-M008 | 48.2 | 1165.253 | 1213.453 |
| RL-T025 | 33.5 | 808.814 | 842.314 |
| Total Volume: | 103.35 | 4890.95 | 4994.30 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 2096.0 | 131.2 | 0.0 |
| | Aluminum Based | 915.3 | 32.8 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 139.0 | 8.1 | 0.5 |
| | Rubber | 245.6 | 1.4 | 0.0 |
| | Plastics | 750.8 | 20.1 | 1.3 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 48.7 | 1.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles**Site Name: INEL****Final Waste Form: Combustible**

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-W198 | 163.8 | 0 | 163.8 |
| IN-W202 | 109.9 | 0 | 109.9 |
| IN-W205 | 1.18 | 0 | 1.18 |
| IN-W250 | 55.97 | 0 | 55.97 |
| IN-W252 | 208 | 0 | 208 |
| IN-W254 | 13.44 | 0 | 13.44 |
| IN-W256 | 34.9 | 0 | 34.9 |
| IN-W305 | 63.3 | 0 | 63.3 |
| IN-W325 | 0.42 | 0 | 0.42 |
| IN-W327 | 5.76 | 0 | 5.76 |
| IN-W330 | 10.09 | 0 | 10.09 |
| IN-W336 | 4.14 | 0 | 4.14 |
| Total Volume: | 670.90 | 0.00 | 670.90 |

Site-Specific Contact Handled Waste Profiles

Site Name: INEL

Final Waste Form: Combustible

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 98.6 | 3.9 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 474.5 | 33.2 | 0.0 |
| | Other Inorganics | 119.0 | 17.1 | 0.0 |
| Organics | Cellulose | 961.5 | 43.2 | 0.0 |
| | Rubber | 629.0 | 149.2 | 0.0 |
| | Plastics | 706.7 | 30.6 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: INEL

Final Waste Form: Filter

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-W214 | 0.89 | 0 | 0.89 |
| IN-W306.4 | 322.67 | 0 | 322.67 |
| Total Volume: | 323.56 | 0.00 | 323.56 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 500.0 | 162.1 | 10.5 |
| Organics | Cellulose | 9.6 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: INEL

Final Waste Form: Graphite

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-W272 | 1.9 | 0 | 1.9 |
| IN-W275 | 8.7 | 0 | 8.7 |
| IN-W276 | 532.5 | 0 | 532.5 |
| IN-W369 | 16.8 | 0 | 16.8 |
| IN-W370 | 90.8 | 0 | 90.8 |
| Total Volume: | 650.70 | 0.00 | 650.70 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.3 | 0.0 | 0.0 |
| | Other Inorganics | 468.0 | 229.9 | 16.9 |
| Organics | Cellulose | 9.8 | 4.1 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 51.4 | 4.7 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles**Site Name:** INEL**Final Waste Form:** Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-W169 | 4331 | 0 | 4331 |
| IN-W170 | 0.44 | 1 | 1.44 |
| IN-W171 | 3.6 | 0 | 3.6 |
| IN-W172 | 165.57 | 0 | 165.57 |
| IN-W186 | 2695.1 | 0 | 2695.1 |
| IN-W189 | 8.2 | 0 | 8.2 |
| IN-W197 | 632.7 | 0 | 632.7 |
| IN-W203 | 71.9 | 0 | 71.9 |
| IN-W204 | 3.2 | 0 | 3.2 |
| IN-W225 | 6.1 | 0 | 6.1 |
| IN-W259 | 58.8 | 0 | 58.8 |
| IN-W265 | 47.8 | 0 | 47.8 |
| IN-W269A | 34.8 | 0 | 34.8 |
| IN-W271 | 0.42 | 0 | 0.42 |
| IN-W281 | 348 | 0 | 348 |
| IN-W283 | 1 | 0 | 1 |
| IN-W285 | 85 | 0 | 85 |
| IN-W289 | 25.4 | 0 | 25.4 |
| IN-W291 | 639 | 0 | 639 |
| IN-W302 | 144.1 | 0 | 144.1 |
| IN-W306.3 | 322.67 | 0 | 322.67 |
| IN-W329 | 1.14 | 0 | 1.14 |
| IN-W334 | 7.48 | 0 | 7.48 |

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Site-Specific Contact Handled Waste Profiles

Site Name: INEL

Final Waste Form: Heterogeneous

| | | | |
|----------------------|----------------|-------------|----------------|
| IN-W345 | 14.6 | 0 | 14.6 |
| IN-W351 | 1.48 | 0 | 1.48 |
| Total Volume: | 9649.50 | 1.00 | 9650.50 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 1634.6 | 38.0 | 0.0 |
| | Aluminum Based | 38.2 | 1.2 | 0.0 |
| | Other Metals | 233.0 | 17.2 | 0.0 |
| | Other Inorganics | 1442.3 | 17.9 | 0.0 |
| Organics | Cellulose | 961.5 | 245.1 | 0.0 |
| | Rubber | 330.0 | 43.7 | 0.0 |
| | Plastics | 887.0 | 148.1 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 144.2 | 0.2 | 0.0 |

Site-Specific Contact Handled Waste Profiles**Site Name:** INEL**Final Waste Form:** Inorganic Non-metal

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-W161 | 134.9 | 0 | 134.9 |
| IN-W230 | 24.7 | 0 | 24.7 |
| IN-W240 | 169.1 | 0 | 169.1 |
| IN-W243 | 235.7 | 0 | 235.7 |
| IN-W245 | 226.7 | 0 | 226.7 |
| IN-W247 | 241.7 | 0 | 241.7 |
| IN-W249 | 3.46 | 0 | 3.46 |
| IN-W366 | 3.43 | 0 | 3.43 |
| IN-W374 | 13.2 | 0 | 13.2 |
| Total Volume: | 1052.89 | 0.00 | 1052.89 |

Site-Specific Contact Handled Waste Profiles

Site Name: INEL

Final Waste Form: Inorganic Non-metal

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 13.1 | 0.3 | 0.0 |
| | Other Inorganics | 1250.0 | 206.9 | 0.0 |
| Organics | Cellulose | 850.0 | 58.5 | 0.0 |
| | Rubber | 8.7 | 0.2 | 0.0 |
| | Plastics | 69.9 | 11.5 | 0.0 |
| Solidified Materials | Inorganic | 69.9 | 5.2 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 865.8 | 0.6 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: INEL

Final Waste Form: Salt Waste

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-W311 | 8.89 | 0 | 8.89 |
| IN-W312 | 4.34 | 0 | 4.34 |
| IN-W314 | 1.43 | 0 | 1.43 |
| IN-W354 | 0.21 | 0 | 0.21 |
| IN-W355 | 1.71 | 0 | 1.71 |
| IN-W356 | 6.33 | 0 | 6.33 |
| Total Volume: | 22.91 | 0.00 | 22.91 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 57.7 | 9.2 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 212.0 | 33.4 | 0.0 |
| | Other Inorganics | 625.0 | 166.0 | 2.9 |
| Organics | Cellulose | 26.2 | 3.7 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 35.0 | 4.5 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

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Site-Specific Contact Handled Waste Profiles

Site Name: INEL

Final Waste Form: Soils

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-W263 | 3.8 | 0 | 3.8 |
| Total Volume: | 3.80 | 0.00 | 3.80 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.1 | 0.1 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 33.9 | 6.4 | 4.6 |
| Organics | Cellulose | 19.0 | 19.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 671.5 | 613.0 | 457.4 |

Site-Specific Contact Handled Waste Profiles**Site Name: INEL****Final Waste Form: Solidified Inorganics**

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-T001 | 6748 | 0 | 6748 |
| IN-W157 | 308 | 0 | 308 |
| IN-W166 | 96.2 | 0 | 96.2 |
| IN-W177 | 239.4 | 0 | 239.4 |
| IN-W179 | 7.8 | 0 | 7.8 |
| IN-W181 | 9.51 | 0 | 9.51 |
| IN-W188 | 2.67 | 0 | 2.67 |
| IN-W216 | 2581 | 0 | 2581 |
| IN-W220 | 753 | 0 | 753 |
| IN-W221 | 14.42 | 0 | 14.42 |
| IN-W222 | 18.8 | 0 | 18.8 |
| IN-W228 | 1003 | 0 | 1003 |
| IN-W306.1 | 322.67 | 0 | 322.67 |
| IN-W332 | 0.83 | 0 | 0.83 |
| IN-W347 | 58.77 | 0 | 58.77 |
| IN-W353 | 0.21 | 0 | 0.21 |
| Total Volume: | 12164.28 | 0.00 | 12164.28 |

Site-Specific Contact Handled Waste Profiles

Site Name: INEL

Final Waste Form: Solidified Inorganics

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 33.4 | 5.1 | 0.0 |
| | Aluminum Based | 23.1 | 0.6 | 0.0 |
| | Other Metals | 3.4 | 0.9 | 0.0 |
| | Other Inorganics | 754.8 | 87.9 | 0.0 |
| Organics | Cellulose | 85.2 | 0.5 | 0.0 |
| | Rubber | 1.7 | 0.4 | 0.0 |
| | Plastics | 68.3 | 4.0 | 0.0 |
| Solidified Materials | Inorganic | 973.9 | 544.4 | 0.0 |
| | Organic | 1357.0 | 24.8 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: INEL

Final Waste Form: Solidified Organics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-W167 | 222.6 | 0 | 222.6 |
| IN-W174 | 206.8 | 0 | 206.8 |
| IN-W309 | 483.2 | 0 | 483.2 |
| Total Volume: | 912.60 | 0.00 | 912.60 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 673.1 | 168.3 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 25.7 | 4.1 | 0.0 |
| Solidified Materials | Inorganic | 528.8 | 66.3 | 0.0 |
| | Organic | 1072.0 | 414.8 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

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Site-Specific Contact Handled Waste Profiles

Site Name: INEL

Final Waste Form: Uncategorized Metal

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-W260A | 11.91 | 0 | 11.91 |
| IN-W280 | 48.2 | 0 | 48.2 |
| IN-W287 | 212 | 0 | 212 |
| IN-W294 | 492.7 | 0 | 492.7 |
| IN-W296 | 4785.4 | 0 | 4785.4 |
| IN-W298 | 97.9 | 0 | 97.9 |
| IN-W300 | 1513 | 0 | 1513 |
| IN-W304 | 80.1 | 0 | 80.1 |
| IN-W306.2 | 322.67 | 0 | 322.67 |
| IN-W371 | 0.21 | 0 | 0.21 |
| Total Volume: | 7564.09 | 0.00 | 7564.09 |

Site-Specific Contact Handled Waste Profiles

Site Name: INEL

Final Waste Form: Uncategorized Metal

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 764.4 | 120.1 | 0.0 |
| | Aluminum Based | 73.7 | 10.8 | 0.0 |
| | Other Metals | 538.0 | 114.2 | 0.0 |
| | Other Inorganics | 812.5 | 23.0 | 0.0 |
| Organics | Cellulose | 115.0 | 6.3 | 0.0 |
| | Rubber | 9.8 | 1.1 | 0.0 |
| | Plastics | 67.6 | 21.4 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: INEL

Final Waste Form: Unknown

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-W308 | 1642.2 | 0 | 1642.2 |
| IN-W338 | 1.27 | 0 | 1.27 |
| IN-W339 | 11.8 | 0 | 11.8 |
| IN-W342 | 0.43 | 0 | 0.43 |
| IN-W350 | 0.21 | 0 | 0.21 |
| Total Volume: | 1655.91 | 0.00 | 1655.91 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: KAPL

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| KA-T001 | 2.4 | 0 | 2.4 |
| Total Volume: | 2.40 | 0.00 | 2.40 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 1634.6 | 98.2 | 0.0 |
| | Aluminum Based | 1.6 | 0.8 | 0.0 |
| | Other Metals | 22.7 | 0.1 | 0.0 |
| | Other Inorganics | 24.0 | 2.4 | 0.0 |
| Organics | Cellulose | 184.6 | 80.0 | 0.0 |
| | Rubber | 16.4 | 7.3 | 0.0 |
| | Plastics | 149.0 | 64.9 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: LANL

Final Waste Form: Combustible

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| LA-T004 | 1515.9 | 1740 | 3255.9 |
| LA-W004 | 252.43 | 724.6 | 977.03 |
| Total Volume: | 1768.33 | 2464.60 | 4232.93 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 265.2 | 257.7 | 254.0 |
| | Aluminum Based | 0.4 | 0.4 | 0.4 |
| | Other Metals | 89.7 | 18.8 | 18.8 |
| | Other Inorganics | 6.8 | 6.8 | 6.8 |
| Organics | Cellulose | 68.7 | 64.0 | 59.2 |
| | Rubber | 1.2 | 1.1 | 1.0 |
| | Plastics | 5.7 | 5.3 | 4.9 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: LANL

Final Waste Form: Soils

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| LA-T008 | 109.37 | 144.6 | 253.97 |
| Total Volume: | 109.37 | 144.60 | 253.97 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 1600.0 | 1200.0 | 1000.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: LANL

Final Waste Form: Solidified Inorganics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| LA-T006 | 4.52 | 29.5 | 34.02 |
| LA-W002 | 3052.97 | 580 | 3632.97 |
| LA-W003 | 1277.42 | 580 | 1857.42 |
| LA-W006 | 513.47 | 869.53 | 1383 |
| Total Volume: | 4848.38 | 2059.03 | 6907.41 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 48.1 | 8.9 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 2180.0 | 1227.4 | 721.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: LANL

Final Waste Form: Uncategorized Metal

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| LA-T001 | 74.55 | 580.45 | 655 |
| LA-T005 | 1449.1 | 1160 | 2609.1 |
| LA-T007 | 6.87 | 58.1 | 64.97 |
| LA-T009 | 42.35 | 57.6 | 99.95 |
| LA-W001 | 2206.41 | 144.59 | 2351 |
| LA-W005 | 212.85 | 725.1 | 937.95 |
| LA-W009 | 142.67 | 280.33 | 423 |
| Total Volume: | 4134.80 | 3006.17 | 7140.97 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 265.2 | 128.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 913.5 | 302.9 | 76.9 |
| | Other Inorganics | 6.8 | 6.3 | 0.0 |
| Organics | Cellulose | 68.7 | 27.8 | 0.0 |
| | Rubber | 1.2 | 0.5 | 0.0 |
| | Plastics | 5.7 | 2.3 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: LBL

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| LB-T001 | 0.84 | 4.42 | 5.26 |
| Total Volume: | 0.84 | 4.42 | 5.26 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 800.0 | 390.0 | 40.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 850.0 | 425.0 | 50.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 200.0 | 150.0 | 60.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 600.0 | 450.0 | 150.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 250.0 | 150.0 | 50.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: LLNL

Final Waste Form: Combustible

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| LL-M001 | 5.2 | 11.648 | 16.848 |
| LL-T002 | 43.682 | 360.672 | 404.354 |
| Total Volume: | 48.88 | 372.32 | 421.20 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 365.0 | 5.0 | 0.0 |
| | Aluminum Based | 365.0 | 5.0 | 0.0 |
| | Other Metals | 365.0 | 2.0 | 0.0 |
| | Other Inorganics | 200.0 | 1.0 | 0.0 |
| Organics | Cellulose | 365.0 | 100.0 | 0.0 |
| | Rubber | 200.0 | 5.0 | 0.0 |
| | Plastics | 365.0 | 100.0 | 5.0 |
| Solidified Materials | Inorganic | 100.0 | 5.0 | 0.0 |
| | Organic | 100.0 | 5.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: LLNL

Final Waste Form: Salt Waste

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| LL-T004 | 0.624 | 2.912 | 3.536 |
| Total Volume: | 0.62 | 2.91 | 3.54 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 100.0 | 20.0 | 0.0 |
| | Aluminum Based | 80.0 | 5.0 | 0.0 |
| | Other Metals | 50.0 | 2.0 | 0.0 |
| | Other Inorganics | 365.0 | 290.0 | 100.0 |
| Organics | Cellulose | 50.0 | 2.0 | 0.0 |
| | Rubber | 20.0 | 1.0 | 0.0 |
| | Plastics | 100.0 | 20.0 | 5.0 |
| Solidified Materials | Inorganic | 10.0 | 1.0 | 0.0 |
| | Organic | 10.0 | 1.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: LLNL

Final Waste Form: Solidified Inorganics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| LL-T001 | 12.48 | 59.7 | 72.18 |
| LL-W019 | 0.823 | 6.448 | 7.271 |
| Total Volume: | 13.30 | 66.15 | 79.45 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 100.0 | 30.0 | 0.0 |
| | Aluminum Based | 50.0 | 5.0 | 0.0 |
| | Other Metals | 20.0 | 1.0 | 0.0 |
| | Other Inorganics | 20.0 | 1.0 | 0.0 |
| Organics | Cellulose | 100.0 | 10.0 | 0.0 |
| | Rubber | 20.0 | 1.0 | 0.0 |
| | Plastics | 100.0 | 20.0 | 5.0 |
| Solidified Materials | Inorganic | 365.0 | 100.0 | 50.0 |
| | Organic | 365.0 | 100.0 | 50.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: LLNL

Final Waste Form: Uncategorized Metal

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| LL-T003 | 142.426 | 220.4 | 362.826 |
| LL-W018 | 1.9 | 26.6 | 28.5 |
| Total Volume: | 144.33 | 247.00 | 391.33 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 800.0 | 160.7 | 0.0 |
| | Aluminum Based | 800.0 | 21.6 | 0.0 |
| | Other Metals | 800.0 | 10.9 | 0.0 |
| | Other Inorganics | 800.0 | 5.4 | 0.0 |
| Organics | Cellulose | 500.0 | 5.5 | 0.0 |
| | Rubber | 100.0 | 2.3 | 0.0 |
| | Plastics | 200.0 | 4.3 | 0.0 |
| Solidified Materials | Inorganic | 300.0 | 1.9 | 0.0 |
| | Organic | 300.0 | 1.9 | 0.0 |
| Soils | | 5.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: MOUND

Final Waste Form: Combustible

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| MD-T002 | 3.536 | 0 | 3.536 |
| MD-T008 | 1.45 | 0 | 1.45 |
| MD-T009 | 0.208 | 0 | 0.208 |
| MD-T013 | 0.416 | 0 | 0.416 |
| Total Volume: | 5.61 | 0.00 | 5.61 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 358.2 | 24.9 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 50.0 | 1.9 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 850.5 | 269.2 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: MOUND

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| MD-T010 | 0.416 | 0 | 0.416 |
| Total Volume: | 0.42 | 0.00 | 0.42 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 350.0 | 200.0 | 50.0 |
| | Aluminum Based | 200.0 | 100.0 | 5.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 350.0 | 200.0 | 50.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 150.0 | 100.0 | 10.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: MOUND

Final Waste Form: Soils

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| MD-T003 | 116.88 | 0 | 116.88 |
| MD-T005 | 30 | 0 | 30 |
| Total Volume: | 146.88 | 0.00 | 146.88 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 415.7 | 371.9 | 17.8 |

Site-Specific-Contact Handled Waste Profiles

Site Name: MOUND

Final Waste Form: Solidified Inorganics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| MD-T001 | 4.784 | 0 | 4.784 |
| MD-W002 | 2.496 | 0 | 2.496 |
| Total Volume: | 7.28 | 0.00 | 7.28 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 33.4 | 3.2 | 0.0 |
| | Aluminum Based | 23.1 | 0.4 | 0.0 |
| | Other Metals | 0.5 | 0.1 | 0.0 |
| | Other Inorganics | 150.7 | 35.4 | 0.0 |
| Organics | Cellulose | 2.1 | 0.3 | 0.0 |
| | Rubber | 1.7 | 0.3 | 0.0 |
| | Plastics | 9.4 | 1.1 | 0.0 |
| Solidified Materials | Inorganic | 973.9 | 752.4 | 487.3 |
| | Organic | 20.3 | 4.2 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: MOUND

Final Waste Form: Uncategorized metal

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| MD-T004 | 21.48 | 0 | 21.48 |
| MD-T006 | 59.59 | 0 | 59.59 |
| MD-T007 | 5 | 0 | 5 |
| MD-T011 | 16.206 | 0 | 16.206 |
| Total Volume: | 102.28 | 0.00 | 102.28 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 680.6 | 440.0 | 0.0 |
| | Aluminum Based | 141.4 | 0.1 | 0.0 |
| | Other Metals | 466.3 | 0.6 | 0.0 |
| | Other Inorganics | 200.0 | 0.3 | 0.0 |
| Organics | Cellulose | 340.0 | 0.5 | 0.0 |
| | Rubber | 18.0 | 0.0 | 0.0 |
| | Plastics | 82.1 | 0.1 | 0.0 |
| Solidified Materials | Inorganic | 3.7 | 0.0 | 0.0 |
| | Organic | 3.7 | 0.0 | 0.0 |
| Soils | | 2.9 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: MU

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| MU-W002 | 0.06 | 1.604 | 1.664 |
| Total Volume: | 0.06 | 1.60 | 1.66 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 20.0 | 11.3 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 60.0 | 25.0 | 0.0 |
| Organics | Cellulose | 10.0 | 2.5 | 0.0 |
| | Rubber | 50.0 | 25.0 | 0.0 |
| | Plastics | 80.0 | 37.5 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: NTS

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| NT-W001 | 619.5 | 0 | 619.5 |
| Total Volume: | 619.50 | 0.00 | 619.50 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 554.0 | 72.8 | 0.0 |
| | Aluminum Based | 512.0 | 12.4 | 0.0 |
| | Other Metals | 483.0 | 5.9 | 0.0 |
| | Other Inorganics | 475.0 | 4.9 | 0.0 |
| Organics | Cellulose | 318.0 | 52.2 | 0.0 |
| | Rubber | 168.0 | 3.8 | 0.0 |
| | Plastics | 318.0 | 49.8 | 1.9 |
| Solidified Materials | Inorganic | 177.0 | 11.7 | 0.0 |
| | Organic | 177.0 | 11.7 | 0.0 |
| Soils | | 0.1 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: ORNL

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| OR-W044 | 517.4 | 263.9 | 781.3 |
| OR-W045 | 3.63 | 0 | 3.63 |
| OR-W047 | 151.95 | 0 | 151.95 |
| Total Volume: | 672.98 | 263.90 | 936.88 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 1716.4 | 96.1 | 0.0 |
| | Aluminum Based | 1.6 | 0.0 | 0.0 |
| | Other Metals | 21.3 | 0.0 | 0.0 |
| | Other Inorganics | 24.0 | 2.4 | 0.0 |
| Organics | Cellulose | 184.8 | 80.9 | 0.0 |
| | Rubber | 17.9 | 7.4 | 0.0 |
| | Plastics | 149.0 | 64.9 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 3.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: ORNL

Final Waste Form: Solidified Inorganics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| OR-W042 | 110 | 0 | 110 |
| Total Volume: | 110.00 | 0.00 | 110.00 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 1057.7 | 793.3 | 346.2 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: PA

Final Waste Form: Solidified Inorganics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| PA-W014 | 0.75 | 0 | 0.75 |
| PA-W015 | 1.2 | 0 | 1.2 |
| PA-W015A | 1.5 | 0 | 1.5 |
| Total Volume: | 3.45 | 0.00 | 3.45 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 33.4 | 9.2 | 0.7 |
| | Aluminum Based | 23.1 | 1.0 | 0.7 |
| | Other Metals | 0.5 | 0.4 | 0.4 |
| | Other Inorganics | 150.7 | 103.3 | 63.1 |
| Organics | Cellulose | 2.1 | 0.9 | 0.3 |
| | Rubber | 1.7 | 0.8 | 0.2 |
| | Plastics | 9.4 | 3.3 | 2.3 |
| Solidified Materials | Inorganic | 973.9 | 639.4 | 487.3 |
| | Organic | 20.3 | 12.4 | 6.9 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: PANTEX

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| PX-T001 | 0.624 | 0 | 0.624 |
| Total Volume: | 0.62 | 0.00 | 0.62 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 95.8 | 87.0 | 78.4 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 12.4 | 11.3 | 10.2 |
| | Plastics | 12.4 | 11.3 | 10.2 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: RFP

Final Waste Form: Filter

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RF-T066 | 37.7 | 133.52 | 171.22 |
| RF-T067 | 1.08 | 0 | 1.08 |
| RF-W066 | 43.9 | 520.3 | 564.2 |
| RF-W067 | 21.28 | 433.77 | 455.05 |
| Total Volume: | 103.96 | 1087.59 | 1191.55 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 595.3 | 8.5 | 0.0 |
| | Aluminum Based | 440.7 | 15.2 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 342.4 | 48.6 | 0.0 |
| Organics | Cellulose | 496.1 | 20.2 | 0.0 |
| | Rubber | 11.3 | 0.8 | 0.0 |
| | Plastics | 596.6 | 26.9 | 0.0 |
| Solidified Materials | Inorganic | 427.6 | 54.2 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: RFP

Final Waste Form: Graphite

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RF-T060 | 17.64 | 6.6 | 24.24 |
| RF-W060 | 0.42 | 36.8 | 37.22 |
| Total Volume: | 18.06 | 43.40 | 61.46 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 17.3 | 8.6 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 386.6 | 312.6 | 51.8 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: RFP

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RF-M002 | 1.89 | 0 | 1.89 |
| RF-T002 | 39.5 | 181.88 | 221.38 |
| RF-T007 | 0.21 | 0 | 0.21 |
| RF-T036 | 1.26 | 2 | 3.26 |
| RF-W008 | 1.89 | 0 | 1.89 |
| RF-W012 | 265.8 | 611.9 | 877.7 |
| RF-W036 | 2.31 | 8.8 | 11.11 |
| Total Volume: | 312.86 | 804.58 | 1117.44 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 865.8 | 2.0 | 0.0 |
| Organics | Cellulose | 681.8 | 64.1 | 0.0 |
| | Rubber | 681.8 | 6.1 | 0.0 |
| | Plastics | 681.8 | 18.6 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 865.8 | 0.1 | 0.0 |

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Site-Specific Contact Handled Waste Profiles

Site Name: RFP

Final Waste Form: Inorganic Non-metal

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RF-T003 | 0 | 0 | 0 |
| RF-T052 | 84.2 | 7.12 | 91.32 |
| RF-T056 | 1.26 | 0.6 | 1.86 |
| RF-T057 | 6.72 | 3.68 | 10.4 |
| RF-W026 | 0.21 | 0 | 0.21 |
| RF-W032 | 2.74 | 11.78 | 14.52 |
| RF-W052 | 13.66 | 276.32 | 289.98 |
| RF-W056 | 1.26 | 3 | 4.26 |
| RF-W057 | 0.63 | 16.18 | 16.81 |
| Total Volume: | 110.68 | 318.68 | 429.36 |

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Site-Specific Contact Handled Waste Profiles

Site Name: RFP

Final Waste Form: Inorganic Non-metal

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 23.8 | 0.2 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 828.4 | 232.3 | 2.2 |
| Organics | Cellulose | 9.6 | 1.3 | 0.0 |
| | Rubber | 1.1 | 1.0 | 0.0 |
| | Plastics | 53.8 | 18.6 | 0.0 |
| Solidified Materials | Inorganic | 8.3 | 0.0 | 0.0 |
| | Organic | 8.3 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: RFP

Final Waste Form: Lead/Cadmium Metal Waste

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RF-W028 | 3.78 | 7.98 | 11.76 |
| RF-W029 | 21.63 | 104.77 | 126.4 |
| RF-W041 | 26.46 | 11.43 | 37.89 |
| Total Volume: | 51.87 | 124.18 | 176.05 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 1438.3 | 39.6 | 0.0 |
| | Other Inorganics | 370.1 | 172.5 | 0.0 |
| Organics | Cellulose | 10.1 | 5.0 | 0.0 |
| | Rubber | 217.3 | 101.3 | 0.0 |
| | Plastics | 30.3 | 15.2 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: RFP

Final Waste Form: Salt Waste

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RF-T004 | 0 | 8.6 | 8.6 |
| RF-W058 | 9.45 | 48 | 57.45 |
| Total Volume: | 9.45 | 56.60 | 66.05 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 28.6 | 23.8 | 4.8 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 719.1 | 261.9 | 124.3 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: RFP

Final Waste Form: Solidified Inorganics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RF-M001 | 72.51 | 2790.2 | 2862.71 |
| RF-T001 | 7.35 | 6.09 | 13.44 |
| RF-T005 | 0 | 0 | 0 |
| RF-T006 | 0.93 | 34.65 | 35.58 |
| RF-T010 | 0.63 | 25.41 | 26.04 |
| RF-T038 | 2.1 | 27.67 | 29.77 |
| RF-T059 | 0 | 0 | 0 |
| RF-T063 | 0 | 0 | 0 |
| RF-T076 | 0 | 0 | 0 |
| RF-W010 | 143.64 | 83.03 | 226.67 |
| RF-W038 | 1.47 | 21.06 | 22.53 |
| RF-W040 | 0 | 0 | 0 |
| RF-W059 | 0 | 0 | 0 |
| RF-W063 | 0 | 0 | 0 |
| RF-W065 | 0 | 0 | 0 |
| RF-W068 | 0 | 0 | 0 |
| RF-W076 | 0 | 0 | 0 |
| Total Volume: | 228.63 | 2988.11 | 3216.74 |

Site-Specific Contact Handled Waste Profiles

Site Name: RFP**Final Waste Form:** Solidified Inorganics

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 68.3 | 30.8 | 0.0 |
| | Aluminum Based | 23.1 | 0.0 | 0.0 |
| | Other Metals | 0.5 | 0.0 | 0.0 |
| | Other Inorganics | 1122.0 | 488.9 | 44.2 |
| Organics | Cellulose | 2.1 | 0.0 | 0.0 |
| | Rubber | 1.7 | 0.0 | 0.0 |
| | Plastics | 9.4 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 973.9 | 226.0 | 44.3 |
| | Organic | 567.3 | 4.6 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: RFP

Final Waste Form: Solidified Organics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RF-T069 | 11.97 | 0 | 11.97 |
| RF-W013 | 111.3 | 0 | 111.3 |
| RF-W069 | 9.53 | 48.82 | 58.35 |
| Total Volume: | 132.80 | 48.82 | 181.62 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 728.3 | 503.6 | 199.1 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 652.8 | 365.1 | 135.3 |
| Soils | | 0.0 | 0.0 | 0.0 |

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Site-Specific Contact Handled Waste Profiles

Site Name: RFP

Final Waste Form: Uncategorized Metal

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RF-T011 | 91.01 | 75.7 | 166.71 |
| RF-T037 | 1.26 | 3.6 | 4.86 |
| RF-W011 | 67.93 | 330.2 | 398.13 |
| RF-W037 | 4.62 | 20 | 24.62 |
| Total Volume: | 164.82 | 429.50 | 594.32 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 695.4 | 165.7 | 0.0 |
| | Aluminum Based | 238.9 | 17.7 | 0.0 |
| | Other Metals | 1057.7 | 22.4 | 0.0 |
| | Other Inorganics | 79.6 | 19.3 | 0.0 |
| Organics | Cellulose | 22.3 | 5.2 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 41.0 | 9.6 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: SNL/NM

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| SA-T001 | 7 | 7 | 14 |
| SA-W134 | 1.04 | 0 | 1.04 |
| Total Volume: | 8.04 | 7.00 | 15.04 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 30.0 | 18.8 | 1.0 |
| | Aluminum Based | 5.0 | 2.8 | 0.0 |
| | Other Metals | 10.0 | 5.7 | 1.0 |
| | Other Inorganics | 20.0 | 14.0 | 1.0 |
| Organics | Cellulose | 5.0 | 2.9 | 1.0 |
| | Rubber | 5.0 | 2.9 | 1.0 |
| | Plastics | 6.0 | 3.9 | 1.0 |
| Solidified Materials | Inorganic | 60.0 | 37.2 | 0.0 |
| | Organic | 5.0 | 2.8 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: SRS

Final Waste Form: Combustible

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| SR-T002 | 4066.8 | 11962.5 | 16029.3 |
| Total Volume: | 4066.80 | 11962.50 | 16029.30 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 7.2 | 2.9 | 0.0 |
| Organics | Cellulose | 961.5 | 575.6 | 105.8 |
| | Rubber | 163.5 | 55.2 | 55.2 |
| | Plastics | 288.5 | 165.6 | 105.8 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: SRS

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| SR-W026 | 222.2 | 2563.6 | 2785.8 |
| SR-W027 | 9910 | 0 | 9910 |
| Total Volume: | 10132.20 | 2563.60 | 12695.80 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 7.2 | 2.9 | 0.0 |
| Organics | Cellulose | 961.5 | 575.6 | 105.8 |
| | Rubber | 163.5 | 55.2 | 55.2 |
| | Plastics | 288.5 | 165.6 | 105.8 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: SRS

Final Waste Form: Solidified Inorganics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| SR-W053 | 0.04 | 0 | 0.04 |
| Total Volume: | 0.04 | 0.00 | 0.04 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 754.8 | 489.0 | 28.8 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 519.2 | 208.9 | 101.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Contact Handled Waste Profiles

Site Name: SRS

Final Waste Form: Solidified Organics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| SR-T001 | 404.8 | 240.7 | 645.5 |
| SR-W006 | 0.05 | 0 | 0.05 |
| Total Volume: | 404.85 | 240.70 | 645.55 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 673.1 | 548.1 | 206.7 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 485.6 | 394.2 | 149.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Remote Handled Waste Profiles

Site Name: ANL-W

Final Waste Form: Filter

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| AW-M003 | 0.89 | 2.09 | 2.98 |
| Total Volume: | 0.89 | 2.09 | 2.98 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 241.2 | 232.5 | 214.9 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 8.8 | 8.8 | 8.8 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Remote Handled Waste Profiles**Site Name:** ANL-W**Final Waste Form:** Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| AW-W020 | 0.59 | 0.08 | 0.67 |
| Total Volume: | 0.59 | 0.08 | 0.67 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 337.3 | 162.5 | 141.3 |
| | Aluminum Based | 49.7 | 29.8 | 27.9 |
| | Other Metals | 35.0 | 4.5 | 0.1 |
| | Other Inorganics | 56.4 | 19.0 | 13.4 |
| Organics | Cellulose | 552.7 | 275.5 | 58.9 |
| | Rubber | 133.3 | 36.4 | 28.5 |
| | Plastics | 290.1 | 114.5 | 62.5 |
| Solidified Materials | Inorganic | 4.9 | 2.6 | 2.5 |
| | Organic | 2.7 | 0.2 | 0.1 |
| Soils | | 8.9 | 2.7 | 2.4 |

Site-Specific Remote Handled Waste Profiles

Site Name: ANL-W

Final Waste Form: Lead/Cadmium Metal Waste

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| AW-W016 | 0 | 0.26 | 0.26 |
| AW-W022 | 0 | 0.1 | 0.1 |
| Total Volume: | 0.00 | 0.36 | 0.36 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 256.1 | 185.0 | 0.0 |
| | Aluminum Based | 27.8 | 20.1 | 0.0 |
| | Other Metals | 24.7 | 17.8 | 0.0 |
| | Other Inorganics | 754.8 | 157.0 | 2.3 |
| Organics | Cellulose | 45.3 | 5.3 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 67.6 | 10.9 | 0.0 |
| Solidified Materials | Inorganic | 619.2 | 57.5 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Remote Handled Waste Profiles

Site Name: ANL-W

Final Waste Form: Uncategorized Metal

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| AW-W018 | 7.06 | 0.88 | 7.94 |
| AW-W019 | 0.112 | 0 | 0.112 |
| AW-W021 | 0 | 0.48 | 0.48 |
| Total Volume: | 7.17 | 1.36 | 8.53 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 256.1 | 256.1 | 256.1 |
| | Aluminum Based | 27.8 | 26.2 | 0.0 |
| | Other Metals | 24.7 | 23.3 | 0.0 |
| | Other Inorganics | 29.3 | 27.7 | 0.0 |
| Organics | Cellulose | 45.3 | 7.4 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 67.6 | 15.1 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Remote Handled Waste Profiles

Site Name: ANL-W

Final Waste Form: Unknown

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| AW-T002 | 0 | 23.736 | 23.736 |
| Total Volume: | 0.00 | 23.74 | 23.74 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

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Site-Specific Remote Handled Waste Profiles

Site Name: BCLDP

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| BC-T001 | 0 | 71 | 71 |
| Total Volume: | 0.00 | 71.00 | 71.00 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 2000.0 | 2000.0 | 2000.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Remote Handled Waste Profiles

Site Name: BT

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| BT-T001 | 0 | 1.557 | 1.557 |
| Total Volume: | 0.00 | 1.56 | 1.56 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 500.0 | 425.0 | 350.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 20.0 | 10.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 550.0 | 450.0 | 350.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Remote Handled Waste Profiles

Site Name: HANFORD

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| RL-M201 | 0 | 1727.71 | 1727.71 |
| RL-T111B | 0.23 | 0 | 0.23 |
| RL-T121 | 25.2 | 0 | 25.2 |
| RL-T126 | 4.87 | 0 | 4.87 |
| RL-T147 | 2.072 | 0 | 2.072 |
| RL-T149 | 0.791 | 0 | 0.791 |
| RL-T202 | 0 | 1246 | 1246 |
| Total Volume: | 33.16 | 2973.71 | 3006.87 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 1052.0 | 115.7 | 0.7 |
| | Aluminum Based | 263.0 | 28.7 | 0.2 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 43.0 | 0.4 | 0.0 |
| Organics | Cellulose | 481.0 | 13.4 | 0.0 |
| | Rubber | 139.0 | 4.6 | 0.0 |
| | Plastics | 456.0 | 21.2 | 1.8 |
| Solidified Materials | Inorganic | 15.0 | 0.1 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 193.0 | 2.9 | 0.0 |

Site-Specific Remote Handled Waste Profiles

Site Name: INEL

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-M002 | 0.624 | 2.8 | 3.424 |
| IN-W139 | 5.43 | 0 | 5.43 |
| IN-W269B | 0.26 | 0 | 0.26 |
| IN-W323 | 1.91 | 0 | 1.91 |
| IN-W358 | 5.41 | 0 | 5.41 |
| Total Volume: | 13.63 | 2.80 | 16.43 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 1634.6 | 125.0 | 0.0 |
| | Aluminum Based | 49.7 | 16.3 | 0.0 |
| | Other Metals | 35.0 | 2.5 | 0.0 |
| | Other Inorganics | 56.4 | 11.4 | 0.0 |
| Organics | Cellulose | 552.7 | 201.1 | 0.0 |
| | Rubber | 133.3 | 22.4 | 0.0 |
| | Plastics | 290.1 | 86.5 | 0.0 |
| Solidified Materials | Inorganic | 4.9 | 1.4 | 0.0 |
| | Organic | 2.7 | 0.1 | 0.0 |
| Soils | | 8.9 | 1.4 | 0.0 |

Site-Specific Remote Handled Waste Profiles

Site Name: INEL

Final Waste Form: Lead/Cadmium Metal Waste

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-M004 | 0 | 2.8 | 2.8 |
| IN-M005 | 0 | 2.8 | 2.8 |
| Total Volume: | 0.00 | 5.60 | 5.60 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.9 | 0.9 | 0.9 |
| | Aluminum Based | 0.1 | 0.1 | 0.1 |
| | Other Metals | 109.6 | 45.2 | 3.2 |
| | Other Inorganics | 320.9 | 166.3 | 1.2 |
| Organics | Cellulose | 13.1 | 7.8 | 3.8 |
| | Rubber | 190.4 | 98.3 | 1.0 |
| | Plastics | 28.7 | 15.4 | 1.0 |
| Solidified Materials | Inorganic | 2.8 | 2.6 | 2.5 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 1.2 | 0.4 | 0.2 |

Site-Specific Remote Handled Waste Profiles

Site Name: INEL

Final Waste Form: Salt Waste

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-M001 | 0 | 2.8 | 2.8 |
| Total Volume: | 0.00 | 2.80 | 2.80 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 28.6 | 20.1 | 3.7 |
| | Aluminum Based | 3.1 | 0.2 | 0.0 |
| | Other Metals | 16.9 | 8.4 | 1.6 |
| | Other Inorganics | 591.1 | 239.2 | 106.3 |
| Organics | Cellulose | 3.8 | 1.0 | 0.0 |
| | Rubber | 0.8 | 0.0 | 0.0 |
| | Plastics | 5.2 | 1.9 | 1.1 |
| Solidified Materials | Inorganic | 0.4 | 0.0 | 0.0 |
| | Organic | 0.4 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

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Site-Specific Remote Handled Waste Profiles

Site Name: INEL

Final Waste Form: Solidified Inorganics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-W146 | 2.1 | 0 | 2.1 |
| Total Volume: | 2.10 | 0.00 | 2.10 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 528.8 | 394.2 | 173.1 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 528.8 | 399.0 | 173.1 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Remote Handled Waste Profiles

Site Name: INEL

Final Waste Form: Uncategorized Metal

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-M003 | 0 | 5.6 | 5.6 |
| IN-W260B | 2.2 | 0 | 2.2 |
| IN-W322 | 1.91 | 0 | 1.91 |
| Total Volume: | 4.11 | 5.60 | 9.71 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 380.3 | 158.5 | 70.7 |
| | Aluminum Based | 141.4 | 16.1 | 3.5 |
| | Other Metals | 466.3 | 119.8 | 24.7 |
| | Other Inorganics | 34.6 | 15.3 | 2.3 |
| Organics | Cellulose | 45.3 | 12.5 | 0.0 |
| | Rubber | 18.0 | 0.7 | 0.0 |
| | Plastics | 82.1 | 14.0 | 0.0 |
| Solidified Materials | Inorganic | 3.7 | 0.0 | 0.0 |
| | Organic | 3.7 | 0.0 | 0.0 |
| Soils | | 2.9 | 0.2 | 0.0 |

Site-Specific Remote Handled Waste Profiles

Site Name: INEL

Final Waste Form: Unknown

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| IN-W337 | 0.21 | 0 | 0.21 |
| IN-W341 | 0.21 | 0 | 0.21 |
| IN-W349 | 6.36 | 0 | 6.36 |
| IN-W359 | 0.64 | 0 | 0.64 |
| IN-W360 | 0.21 | 0 | 0.21 |
| IN-W372 | 3.5 | 0 | 3.5 |
| Total Volume: | 11.13 | 0.00 | 11.13 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Remote Handled Waste Profiles

Site Name: KAPL

Final Waste Form: Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| KA-W016 | 11.23 | 25.23 | 36.46 |
| Total Volume: | 11.23 | 25.23 | 36.46 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 1634.6 | 98.2 | 0.0 |
| | Aluminum Based | 1.6 | 0.8 | 0.0 |
| | Other Metals | 22.7 | 0.1 | 0.0 |
| | Other Inorganics | 24.0 | 2.4 | 0.0 |
| Organics | Cellulose | 184.5 | 80.9 | 0.0 |
| | Rubber | 16.4 | 7.3 | 0.0 |
| | Plastics | 149.0 | 64.9 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Remote Handled Waste Profiles

Site Name: LANL

Final Waste Form: Combustible

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| LA-T010 | 14.84 | 3.16 | 18 |
| Total Volume: | 14.84 | 3.16 | 18.00 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 265.2 | 257.7 | 254.0 |
| | Aluminum Based | 0.4 | 0.4 | 0.4 |
| | Other Metals | 89.7 | 18.8 | 18.8 |
| | Other Inorganics | 6.8 | 6.8 | 6.8 |
| Organics | Cellulose | 68.7 | 64.0 | 59.2 |
| | Rubber | 1.2 | 1.1 | 1.0 |
| | Plastics | 5.7 | 5.3 | 4.9 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Remote Handled Waste Profiles

Site Name: LANL

Final Waste Form: Uncategorized Metal

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| LA-T011 | 50.98 | 60 | 110.98 |
| LA-T012 | 10.51 | 4.5 | 15.01 |
| LA-WR01 | 2.1 | 0 | 2.1 |
| LA-WR05 | 12.87 | 15 | 27.87 |
| Total Volume: | 76.46 | 79.50 | 155.96 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 265.2 | 229.4 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 913.5 | 302.9 | 76.9 |
| | Other Inorganics | 6.8 | 6.1 | 0.0 |
| Organics | Cellulose | 68.7 | 0.9 | 0.0 |
| | Rubber | 1.2 | 0.0 | 0.0 |
| | Plastics | 5.7 | 0.1 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Remote Handled Waste Profiles**Site Name:** ORNL**Final Waste Form:** Heterogeneous

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| OR-W040 | 382.81 | 182.7 | 565.51 |
| Total Volume: | 382.81 | 182.70 | 565.51 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 1716.4 | 96.2 | 0.0 |
| | Aluminum Based | 1.6 | 0.0 | 0.0 |
| | Other Metals | 21.3 | 0.0 | 0.0 |
| | Other Inorganics | 24.0 | 2.4 | 0.0 |
| Organics | Cellulose | 184.8 | 80.9 | 0.0 |
| | Rubber | 17.9 | 7.4 | 0.0 |
| | Plastics | 149.0 | 64.9 | 0.0 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 3.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Remote Handled Waste Profiles

Site Name: ORNL

Final Waste Form: Solidified Inorganics

| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| OR-W046 | 611 | 174 | 785 |
| Total Volume: | 611.00 | 174.00 | 785.00 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 0.0 | 0.0 | 0.0 |
| Organics | Cellulose | 0.0 | 0.0 | 0.0 |
| | Rubber | 0.0 | 0.0 | 0.0 |
| | Plastics | 0.0 | 0.0 | 0.0 |
| Solidified Materials | Inorganic | 1057.7 | 793.3 | 346.2 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

Site-Specific Remote Handled Waste Profiles**Site Name: SRS****Final Waste Form: Heterogeneous**

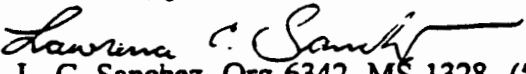
| <u>Waste Stream ID</u> | <u>Retrievably Stored (m3)</u> | <u>Projected (m3)</u> | <u>Total (m3)</u> |
|------------------------|------------------------------------|-----------------------|-------------------|
| SR-T003 | 0 | 63.92 | 63.92 |
| Total Volume: | 0.00 | 63.92 | 63.92 |

| <u>Material Parameters (kg/m3)</u> | | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|------------------------------------|-------------------------|----------------|----------------|----------------|
| Inorganics | Iron Based | 0.0 | 0.0 | 0.0 |
| | Aluminum Based | 0.0 | 0.0 | 0.0 |
| | Other Metals | 0.0 | 0.0 | 0.0 |
| | Other Inorganics | 7.2 | 2.9 | 0.0 |
| Organics | Cellulose | 961.5 | 575.6 | 105.8 |
| | Rubber | 163.5 | 55.2 | 55.2 |
| | Plastics | 288.5 | 165.6 | 105.8 |
| Solidified Materials | Inorganic | 0.0 | 0.0 | 0.0 |
| | Organic | 0.0 | 0.0 | 0.0 |
| Soils | | 0.0 | 0.0 | 0.0 |

APPENDIX C

Sandia National Laboratories

Managed and Operated by Sandia Corporation
a subsidiary of Martin Marietta Corporation
Albuquerque, New Mexico 87185-1328

date : June 24, 1994
to : P.E. Drez, [Drez Environmental Associates]
from :  L. C. Sanchez, Org 6342, MS-1328 (505)848-0685

subject : Comments on May 9, 1994 Communications

The following is a synopsis of communications that took place on May 9, 1994 [1]. In those communications you requested responses to the following two questions:

- [1] In the radionuclide table (Table 3-3.1) located in SAND92-0700/3, there are a series of radionuclide inventories listed by isotope. This is the list that we have to replace in the WTWBIR. On the list, I thought that only isotopes with half-lives greater than 20 years were listed, but for instance, Cf-252 is listed which has a half-life of 2.64 years. Is this because it decays to Cm-248, which has a long half life? There are other isotopes which have half-lives greater than 20 years which are not reported in Table 3-3.1. Is this because of their overall low curie content in the inventory? If so what is the "cut-off" used as to whether an isotope appears in the table?
- [2] One of the strong comments by Karen Knudtsen was that we need to put in a strong justification for the different waste parameters that will be documented in the inventory. Can one or both of you work with the PA and model development people (e.g., Larry Brush) and fill in the table attached?

Per your request [1] I had talked with several people to get responses to your two questions. The responses obtained on May 9, 1994 and relayed to you were [2]:

- [1] In talking to Andy Peterson, he said that the table of radionuclides (Table 3.3-1) is a synopsis of all the available data from the sites. Any radionuclides not reported were probably due to the sites: 1) not identifying them in the waste, 2) they had been of undetectable quantities, etc. Also, the decay chains of interest (Figure 3.3-5) were those identified by SNL scientists as being the chains of interest.
- [2] The matrix which identifies the justification of waste parameters was reviewed by (see attachment):

Exceptional Service in the National Interest

| Matrix Column | Reviewer |
|-------------------|--|
| Current Models | Palmer Vaughn Andy Peterson Jim Schreiber Barry Butcher |
| Under Development | Larry Brush |
| Possible Future | Larry Brush |
| Overall | (none) |

REFERENCES

- [1] Informal Communications from P.E. Drez [Drez Environmental Associates] to R.D. Waters (Dept. 6622) and L.C. Sanchez (Dept. 6342) dated May 9, 1994.
- [2] Informal Communications from L.C. Sanchez (Dept. 6342) to P.E. Drez [Drez Environmental Associates] dated May 9, 1994.

LCS:6342:lcs/(94-2029)

Copy to (with attachment):

MS-1328, D.R. Anderson [Dept. 6342]
MS-1328, M.G. Marietta [Dept. 6342]
MS-1328, J.D. Schreiber [Dept. 6342]
MS-1328, P. Vaughn [Dept. 6342]
MS-1341, B.M. Butcher [Dept. 6345]
MS-1341, L.H. Brush [Dept. 6348]
MS-1341, A.C. Peterson [Dept. 6348]
MS-1328, Day File [Dept. 6342]
MS-1328, L.C. Sanchez [Dept. 6342]

Justification of Waste Parameters

| Waste Parameter | Input Variable in <u>Current</u> PA Models | | Input Variable in PA Model <u>Under Development</u> | Input Variable in Possible <u>Future</u> PA Model | Remaining Matrix Variable to Provide Overall Waste Form Information |
|----------------------------------|--|---|---|---|---|
| Iron-Based Metals and Alloys | X | X | X | X | |
| Aluminum-Based Metals and Alloys | | X | X | X | |
| Other Metals | | X | | X | |
| Other Inorganics | | X | X | X | |
| Cellulosics | X | X | X | X | |
| Plastics | | X | X | X | |
| Rubbers | 1/2 | X | X | X | |
| Solidified Inorganics | | X | X | X | |
| Solidified Organics Matrix | | X | X | X | |
| Soils | | X | ? | ? | |
| | | | | | |

GAS GENERATION

MECHANICAL CHARACTERISTICS

APPENDIX D

Instructions for Completing Table 11,
TRU and TRU Mixed Waste Characterization for
the WIPP TRU Waste Baseline Inventory Report (WTWBIR)

Table 11 forms have been provided to those sites with mixed waste streams listed in the Mixed Waste Inventory Report (MWIR) (DOE, 1994) or TRU waste listed in the Integrated Data Base (IDB) for 1993 (DOE, 1994d). Please review and make corrections to these forms.

NOTE: Remember the waste forms being asked for are "final waste forms" that would be shipped and emplaced in the Waste Isolation Pilot Plant (WIPP).

FIRST PAGE OF FORM

1. **SITE NAME:** Enter the name of your site.

WASTE TYPE: Enter either TRU (non-mixed) or MTRU (mixed TRU).

HANDLING: Enter either CH (contact-handled) or RH (remote-handled).

2. **WASTE STREAM -**

MWIR ID: Enter the MWIR identifier or assign a new MWIR identifier for TRU or new MTRU waste streams.

Local ID: Enter any relevant local stream identification number(s).

3. **STREAM NAME:** Enter the site name for the waste stream.

4. **DESCRIPTION:** Enter a description of the waste stream. If this stream is a new stream created from changing another waste stream into final form for WIPP, please include the identifier of the original waste stream in the MWIR or provide an equivalent number.

5. **MATRIX CODE -**

Fm MWIR: If available, this number should come from the MWIR. Otherwise enter the proper waste matrix (treatment) code for the identified waste stream.

Assigned: Leave blank. This entry is used for evaluation purposes.

Final Waste Form Group: Of the eleven waste groups identified in the WTWBIR (e.g., Heterogeneous), select the most appropriate one for the final waste form of this waste stream and enter in this block.

Site Matrix Description: Enter a reasonably detailed description of the waste matrix and other relevant information.

6. **FINAL WASTE FORM IDC's -**

From Site: Enter the appropriate Item Description Code (IDC) (DOE, 1992) for this waste stream.

Assigned Equivalent IDC: Leave blank. This block will be used for evaluation purposes.

7. CONTAINERS - There should be a line for each container type (i.e., 55-gallon drum and/or standard waste box) in which this waste stream would be shipped to WIPP.

NOTE: For each type of waste container, there should be a continuation page.

The numbers provided for stored and projected containers were accidentally incorporated from the non-radionuclide inventory database (NID) and should be ignored and replaced with the correct inventory volumes.

The standard 55-gallon drum has an internal volume of 0.208 m^3 . The internal value of a standard waste box is 1.9 m^3 .

8. CHECK BOXES - Please check the appropriate boxes for this waste stream, observing the notes which apply to them.

SECOND PAGE OF FORM

9. HEADER DATA on continuation sheet is repeated from page 1.

10. WASTE CONTAINER - Type: Identify the applicable container type (i.e., 55-gallon drum, standard waste box).

11. TYPICAL WASTE MATERIAL WEIGHTS FOR FINAL WASTE FORM - For the listed waste stream, identify the "typical" Average, Lower Limit, and Upper Limit estimates in kg/m^3 for each waste material parameter listed for the particular container type (i.e., 55-gallon drum or standard waste box). If the estimates are zero, enter a zero in the column. Do not leave any blanks. Include any pertinent comments in the Comment box.

12. STORED TRU WASTE AND ESTIMATED RATES OF TRU WASTE GENERATION - These dates should be entered as pairs of numbers:

- The upper number is the actual stored and projected waste volumes, identical to that reported in the MWIR for MTRU waste streams.
- The lower box is the volume of waste changed to account for its conversion into the final WIPP waste form.

NOTE: The volumes to be reported for the years 1998-2002 and 2003-2022 are per year estimates. The years 1998-2002 are for a 5-year period; the years 2003-2022 are for a 20-year period.

13. TYPICAL ISOTOPIC COMPOSITION - Enter the radionuclides and average anticipated activity (curies) for those radionuclides in the waste stream which comprise greater than 1% of the stream's activity.

14. SIGNATURE: Please print and sign your name, and date each form.

Table 11: TRU AND TRU MIXED WASTE CHARACTERIZATION FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME () **WASTE TYPE** **HANDLING** Page 1 of ____

| | | | |
|--------------------------------|---------------------------------------|--------------------|----------------------|
| WASTE STREAM | MWIR ID <input type="text"/> | STREAM NAME | <input type="text"/> |
| | Local ID <input type="text"/> | DESCRIPTION | |
| MATRIX CODE | Fm MWIR: <input type="text"/> | | <input type="text"/> |
| | Assigned: <input type="text"/> | | |
| Final Waste Form Group | <input type="text"/> | | |
| Site Matrix Description | <input type="text"/> | | |

FINAL WASTE FORM IDC's **From Site:** **Assigned Equivalent IDC:**

Note: List the best estimate of the type(s) of container(s) (normally Drums and Standard Waste Boxes) that your site plans to use for the final form of this waste when sent to WIPP. Each container type should have an accompanying continuation sheet estimating radiological and waste matrix constituents.

| Containers (for final waste form) | Type/Size | Container Material | External Vol/Ctnr (m3) | Liner Type | Nbr Stored | Nbr Projected 1993 - 2022 |
|---|-----------|--------------------|------------------------|------------|------------|---------------------------|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

PLEASE CHECK ALL OF THE FOLLOWING BOXES THAT APPLY TO THIS STREAM IN ITS FINAL FORM:

| | | | |
|--|---|--|--|
| Defense TRU Waste <input type="checkbox"/> | Mixed TRU <input type="checkbox"/> | Research and Devel. Waste <input type="checkbox"/> | TSCA Asbestos <input type="checkbox"/> |
| Non-Defense TRU Waste <input type="checkbox"/> | Non-Mixed TRU <input type="checkbox"/> | Operations Waste <input type="checkbox"/> | PCBs <input type="checkbox"/> |
| Commercial TRU Waste <input type="checkbox"/> | Suspect Mixed TRU <input type="checkbox"/> | Residues <input type="checkbox"/> | Other <input type="checkbox"/> |
| Unknown <input type="checkbox"/> | Unknown <input type="checkbox"/> | Environmental Restoration <input type="checkbox"/> | N/A <input type="checkbox"/> |
| (check only 1 box in this column) | (check only 1 of boxes above) | Decon and Decommissioning <input type="checkbox"/> | Unknown <input type="checkbox"/> |
| | Retrievably Stored <input type="checkbox"/> | From Treatment of Waste <input type="checkbox"/> | |
| | Buried <input type="checkbox"/> | Maintenance <input type="checkbox"/> | |

Table 11: TRU AND TRU MIXED WASTE CHARACTERIZATION FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

Continuation Page

Page ____ of ____

SITE NAME ()

WASTE TYPE

HANDLING

WASTE STREAM MWIR ID

STREAM NAME

WASTE CONTAINER Type

Note: There should be one of these continuation pages for each container listed on page 1 for this stream.

TYPICAL WASTE MATERIAL WEIGHTS FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit | Comment |
|------------------------------|---------|-------------|-------------|---------|
| Iron-based Metal | | | | |
| Aluminum-Based Metal | | | | |
| Other Metals | | | | |
| Other Inorganic Materials | | | | |
| Cellulosics | | | | |
| Rubber | | | | |
| Plastics | | | | |
| Solidified, Inorganic matrix | | | | |
| Solidified, Organic matrix | | | | |
| Soils | | | | |
| Packaging Materials, Steel | | | | |
| Packaging Material, Plastic | | | | |

STORED TRU WASTE AND ESTIMATED RATES OF TRU WASTE GENERATION

Incorporating Volume Changes for Final Waste Form >-

End of 1992: m3

Projected: m3

End of 1992: m3

Projected: m3

| | End of 1993 (m3) | 1994 (m3) | 1995 (m3) | 1996 (m3) | 1997 (m3) | 1998-2002 (m3/yr) | 2003-2022 (m3/yr) |
|---------------------|------------------|-----------|-----------|-----------|-----------|-------------------|-------------------|
| Projected Actual | | | | | | | |
| In Final Waste Form | | | | | | | |

TYPICAL ISOTOPIC COMPOSITION

| Radionuclide | Typical Activity (Curies/m3) | Radionuclide | Typical Activity (Curies/m3) | Radionuclide | Typical Activity (Curies/m3) |
|--------------|------------------------------|--------------|------------------------------|--------------|------------------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

File: _____

APPENDIX E

**Site-Specific Stored Radionuclide Inventories
from Draft Revision 10 IDB**

Remote-Handled

APPENDIX E

RH Curies on a Site-by-Site Basis End of 1993 TRU Inventory

| Nuclide | ANLE | HANF | INEL | KAPL | LANL | NVTS | ORNL | Total Curies |
|---------|----------|----------|----------|----------|----------|----------|----------|--------------|
| AC-225 | | 4.89E-04 | 1.14E-04 | 7.66E-20 | | 6.24E-14 | 5.41E-02 | 5.47E-02 |
| AC-227 | | 1.31E-05 | 1.92E-07 | 4.06E-20 | 3.44E-07 | 6.81E-13 | 2.52E-03 | 2.53E-03 |
| AC-228 | | 1.53E-03 | 3.03E-05 | 1.03E-23 | | 2.14E-18 | 6.06E-04 | 2.17E-03 |
| AG-110 | | 3.13E-08 | 1.66E-08 | 1.54E-07 | 3.95E-09 | | | 2.05E-07 |
| AG-110M | | 2.36E-06 | 1.25E-06 | 1.15E-05 | 2.97E-07 | | | 1.54E-05 |
| AM-241 | | 1.46E+02 | 2.37E+01 | 6.62E-03 | | 4.86E-01 | 3.22E+01 | 2.03E+02 |
| AM-243 | | | 6.91E-04 | | | | 3.98E-04 | 1.09E-03 |
| AM-245 | | | | | | | 4.18E-15 | 4.18E-15 |
| AT-217 | | 4.89E-04 | 1.14E-04 | 7.66E-20 | | 6.24E-14 | 5.41E-02 | 5.47E-02 |
| BA-137M | 1.12E+01 | 6.31E+03 | 1.88E+03 | 2.33E+01 | 2.79E+03 | | 3.69E+04 | 4.79E+04 |
| BI-210 | | 4.20E-01 | 1.73E-12 | 1.18E-17 | 3.36E-19 | 3.65E-33 | 2.73E-12 | 4.20E-01 |
| BI-211 | | 1.30E-05 | 1.88E-07 | 2.85E-20 | 3.37E-07 | 6.65E-13 | 2.42E-03 | 2.43E-03 |
| BI-212 | | 1.36E-03 | 1.73E-05 | 8.27E-25 | | 1.16E-18 | 1.50E+00 | 1.50E+00 |
| BI-213 | | 4.89E-04 | 1.14E-04 | 7.66E-20 | | 6.24E-14 | 5.41E-02 | 5.47E-02 |
| BI-214 | | 2.47E+00 | 1.87E-11 | 1.53E-15 | 7.59E-18 | 9.46E-32 | 7.61E-11 | 2.47E+00 |
| BK-249 | | | | | | | 2.89E-10 | 2.89E-10 |
| C-14 | | 7.18E+02 | 3.99E-02 | | | | 2.50E+01 | 7.43E+02 |
| CD-113M | | 1.10E-04 | 1.34E-07 | 6.05E-09 | 1.03E-06 | | | 1.11E-04 |
| CE-144 | | 1.03E+00 | 2.39E+01 | 1.45E+00 | 1.03E-01 | | 1.98E+01 | 4.63E+01 |
| CF-249 | | | | | | | 1.34E-02 | 1.34E-02 |
| CF-250 | | | | | | 2.01E-01 | | 2.01E-01 |
| CF-252 | | | | | | | 8.48E+00 | 8.48E+00 |
| CM-243 | | | 1.52E-02 | | | | 3.33E+02 | 3.33E+02 |
| CM-244 | | | | | | 1.68E+02 | 1.78E+03 | 1.95E+03 |
| CM-245 | | | | | | | 2.20E-06 | 2.20E-06 |
| CM-246 | | | | | | 3.39E-04 | | 3.39E-04 |
| CM-248 | | | | | | 6.45E-09 | 3.89E-04 | 3.89E-04 |
| CO-58 | | 1.12E-08 | 5.60E-08 | | | | 2.24E-26 | 6.72E-08 |
| CO-60 | | 4.77E+03 | 1.68E+01 | 1.14E-01 | 5.43E+00 | | 1.73E+03 | 6.52E+03 |

**RH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | ANLE | HANF | INEL | KAPL | LANL | NVTS | ORNL | Total Curies |
|---------|----------|----------|----------|----------|----------|----------|----------|--------------|
| CR-51 | | | 1.80E-32 | | | | | 1.80E-32 |
| CS-134 | | 2.45E+00 | 1.05E+02 | 5.04E-03 | 5.00E-02 | | 1.09E+02 | 2.17E+02 |
| CS-135 | | 2.43E-02 | 2.50E-05 | 7.30E-07 | 2.02E-04 | | | 2.46E-02 |
| CS-137 | 1.18E+01 | 6.67E+03 | 1.99E+03 | 2.47E+01 | 2.95E+03 | | 3.90E+04 | 5.07E+04 |
| EU-152 | | 2.83E+02 | 2.07E-02 | 3.62E-06 | 5.96E-04 | | 8.75E+03 | 9.04E+03 |
| EU-154 | | 1.43E+03 | 8.20E-01 | 3.56E-04 | 4.34E-02 | | 4.57E+03 | 6.01E+03 |
| EU-155 | | 5.76E+02 | 3.32E-01 | 8.11E-03 | 5.45E+01 | | 9.37E+02 | 1.57E+03 |
| FE-55 | | | 1.02E+00 | | | | | 1.02E+00 |
| FE-59 | | 1.53E-12 | 2.86E-20 | | | | 4.01E-39 | 1.53E-12 |
| FR-221 | | 4.89E-04 | 1.14E-04 | 7.66E-20 | | 6.24E-14 | 5.41E-02 | 5.47E-02 |
| FR-223 | | 1.81E-07 | 2.64E-09 | 5.60E-22 | 4.74E-09 | 9.40E-15 | 3.47E-05 | 3.49E-05 |
| H-3 | | | | | | | 1.37E+01 | 1.37E+01 |
| KR-85 | | | 6.78E+00 | | | | | 6.78E+00 |
| MN-54 | | 3.45E-01 | 1.95E-01 | | | | 2.98E-06 | 5.40E-01 |
| NB-95 | | 2.36E-10 | 1.51E-08 | 2.68E-02 | 6.19E-11 | | 1.34E+00 | 1.37E+00 |
| NB-95M | | 7.89E-13 | 5.06E-11 | 8.98E-05 | 2.07E-13 | | 4.65E-03 | 4.74E-03 |
| NI-63 | | | 3.56E+00 | | | | | 3.56E+00 |
| NP-237 | | 1.34E-03 | 7.86E-04 | 2.09E-09 | | 2.87E-06 | 1.15E-04 | 2.24E-03 |
| NP-239 | | | 6.91E-04 | | | | 3.98E-04 | 1.09E-03 |
| NP-240 | | | | | | 4.92E-19 | 2.96E-14 | 2.96E-14 |
| NP-240M | | | | | | 4.46E-16 | 2.69E-11 | 2.69E-11 |
| PA-231 | | 4.97E-05 | 1.19E-06 | 3.82E-18 | 2.03E-06 | 4.91E-12 | 2.95E-02 | 2.96E-02 |
| PA-233 | | 1.33E-03 | 7.85E-04 | 1.87E-09 | | 2.86E-06 | 1.14E-04 | 2.23E-03 |
| PA-234 | | 1.34E-05 | 1.80E-06 | 1.17E-18 | 2.60E-08 | 1.80E-21 | 2.82E-03 | 2.84E-03 |
| PA-234M | | 1.03E-02 | 1.38E-03 | 8.97E-16 | 2.00E-05 | 1.38E-18 | 2.17E+00 | 2.18E+00 |
| PB-209 | | 4.89E-04 | 1.14E-04 | 7.66E-20 | | 6.24E-14 | 5.41E-02 | 5.47E-02 |
| PB-210 | | 4.20E-01 | 1.73E-12 | 1.18E-17 | 3.36E-19 | 3.65E-33 | 2.73E-12 | 4.20E-01 |
| PB-211 | | 1.30E-05 | 1.88E-07 | 2.85E-20 | 3.37E-07 | 6.65E-13 | 2.42E-03 | 2.43E-03 |
| PB-212 | | 1.36E-03 | 1.73E-05 | 8.27E-25 | | 1.16E-18 | 1.50E+00 | 1.50E+00 |

**RH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | ANLE | HANF | INEL | KAPL | LANL | NVTS | ORNL | Total Curies |
|---------|----------|----------|----------|----------|----------|----------|----------|--------------|
| PB-214 | | 2.47E+00 | 1.87E-11 | 1.53E-15 | 7.59E-18 | 9.46E-32 | 7.61E-11 | 2.47E+00 |
| PD-107 | | 3.60E-03 | 3.69E-06 | 1.08E-07 | 2.99E-05 | | | 3.63E-03 |
| PM-147 | | 8.14E+02 | 2.55E+01 | 6.84E-01 | 1.79E+02 | | | 1.02E+03 |
| PO-210 | | 3.70E-01 | 1.42E-12 | 2.85E-18 | 2.29E-19 | 2.39E-33 | 1.73E-12 | 3.70E-01 |
| PO-211 | | 3.55E-08 | 5.13E-10 | 7.79E-23 | 9.21E-10 | 1.82E-15 | 6.60E-06 | 6.64E-06 |
| PO-212 | | 8.71E-04 | 1.11E-05 | 5.30E-25 | | 7.43E-19 | 9.59E-01 | 9.60E-01 |
| PO-213 | | 4.78E-04 | 1.12E-04 | 7.50E-20 | | 6.10E-14 | 5.30E-02 | 5.35E-02 |
| PO-214 | | 2.47E+00 | 1.87E-11 | 1.53E-15 | 7.59E-18 | 9.46E-32 | 7.61E-11 | 2.47E+00 |
| PO-215 | | 1.30E-05 | 1.88E-07 | 2.85E-20 | 3.37E-07 | 6.65E-13 | 2.42E-03 | 2.43E-03 |
| PO-216 | | 1.36E-03 | 1.73E-05 | 8.27E-25 | | 1.16E-18 | 1.50E+00 | 1.50E+00 |
| PO-218 | | 2.47E+00 | 1.87E-11 | 1.53E-15 | 7.59E-18 | 9.46E-32 | 7.61E-11 | 2.47E+00 |
| PR-144 | | 1.03E+00 | 2.39E+01 | 1.45E+00 | 1.03E-01 | | 1.98E+01 | 4.63E+01 |
| PU-238 | | 4.74E+01 | 3.57E+01 | 8.23E-01 | | | 4.93E+02 | 5.77E+02 |
| PU-239 | 3.53E-02 | 3.35E+02 | 2.98E+01 | 3.70E-04 | 2.27E+02 | 2.36E+00 | 2.15E+02 | 8.09E+02 |
| PU-240 | 4.67E-02 | 1.66E+02 | 1.13E+01 | 4.20E-04 | | 2.20E-01 | 1.07E+00 | 1.79E+02 |
| PU-241 | 8.23E-01 | 4.58E+03 | 5.30E+01 | 2.00E-01 | | 7.26E-05 | 1.03E-07 | 4.63E+03 |
| PU-242 | | 4.20E-03 | 1.02E-03 | 6.40E-06 | | 2.95E-09 | | 5.22E-03 |
| PU-244 | | | | | | 4.47E-16 | 2.69E-11 | 2.69E-11 |
| RA-223 | | 1.30E-05 | 1.88E-07 | 2.85E-20 | 3.37E-07 | 6.65E-13 | 2.42E-03 | 2.43E-03 |
| RA-224 | | 1.36E-03 | 1.73E-05 | 8.27E-25 | | 1.16E-18 | 1.50E+00 | 1.50E+00 |
| RA-225 | | 4.91E-04 | 1.15E-04 | 8.76E-20 | | 6.28E-14 | 5.46E-02 | 5.53E-02 |
| RA-226 | | 2.47E+00 | 1.87E-11 | 1.53E-15 | 7.59E-18 | 9.46E-32 | 7.61E-11 | 2.47E+00 |
| RA-228 | | 1.53E-03 | 3.03E-05 | 1.03E-23 | | 2.14E-18 | 6.06E-04 | 2.17E-03 |
| RH-106 | | 1.94E+00 | 2.86E-01 | 2.61E-01 | 2.13E+01 | | 6.30E+01 | 8.68E+01 |
| RN-219 | | 1.30E-05 | 1.88E-07 | 2.85E-20 | 3.37E-07 | 6.65E-13 | 2.42E-03 | 2.43E-03 |
| RN-220 | | 1.36E-03 | 1.73E-05 | 8.27E-25 | | 1.16E-18 | 1.50E+00 | 1.50E+00 |
| RN-222 | | 2.47E+00 | 1.87E-11 | 1.53E-15 | 7.59E-18 | 9.46E-32 | 7.61E-11 | 2.47E+00 |
| RU-106 | | 1.94E+00 | 2.86E-01 | 2.61E-01 | 2.13E+01 | | 6.30E+01 | 8.68E+01 |
| SB-125 | | 1.12E+01 | 1.62E+00 | 7.89E-03 | 1.18E+02 | | | 1.31E+02 |

**RH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | ANLE | HANF | INEL | KAPL | LANL | NVTS | ORNL | Total Curies |
|---------|----------|----------|----------|----------|----------|----------|----------|--------------|
| SB-126 | | 6.55E-03 | 6.71E-06 | 1.96E-07 | 5.44E-05 | | | 6.61E-03 |
| SB-126M | | 4.68E-02 | 4.79E-05 | 1.40E-06 | 3.89E-04 | | | 4.72E-02 |
| SE-79 | | 2.11E-02 | 2.17E-05 | 6.33E-07 | 1.76E-04 | | | 2.13E-02 |
| SM-151 | | 7.38E+01 | 7.76E-02 | 2.44E-03 | 6.25E-01 | | | 7.45E+01 |
| SN-119M | | 3.34E-05 | 1.95E-05 | 1.97E-04 | 4.34E-06 | | | 2.55E-04 |
| SN-121M | | 1.38E+00 | 1.48E-03 | 4.93E-05 | 1.19E-02 | | | 1.39E+00 |
| SN-126 | | 4.68E-02 | 4.79E-05 | 1.40E-06 | 3.89E-04 | | | 4.72E-02 |
| SF-90 | | 5.74E+03 | 1.78E+03 | 2.46E+01 | 2.69E+03 | | 9.71E+04 | 1.07E+05 |
| TA-182 | | | 1.22E-05 | | | | | 1.22E-05 |
| TC-99 | | 1.21E+00 | 1.24E-03 | 3.64E-05 | 1.01E-02 | | | 1.22E+00 |
| TE-125M | | 3.82E-14 | 3.19E-12 | 3.51E-05 | 4.88E+01 | | | 4.88E+01 |
| TE-127 | | 8.34E-08 | 6.35E-07 | 1.66E-03 | 1.44E-08 | | | 1.66E-03 |
| TE-127M | | 8.54E-08 | 6.51E-07 | 1.70E-03 | 1.47E-08 | | | 1.70E-03 |
| TH-227 | | 1.31E-05 | 1.89E-07 | 3.28E-20 | 3.40E-07 | 6.71E-13 | 2.46E-03 | 2.47E-03 |
| TH-228 | | 1.36E-03 | 1.73E-05 | 8.70E-25 | | 1.16E-18 | 1.50E+00 | 1.50E+00 |
| TH-229 | | 4.93E-04 | 1.16E-04 | 1.05E-19 | | 6.34E-14 | 5.54E-02 | 5.60E-02 |
| TH-230 | | 2.17E-04 | 1.28E-08 | 1.06E-11 | 8.90E-15 | 1.46E-28 | 1.16E-07 | 2.17E-04 |
| TH-231 | 4.22E-06 | 1.23E-01 | 5.41E-03 | 3.64E-13 | 8.31E-03 | 3.24E-08 | 3.67E+02 | 3.67E+02 |
| TH-232 | | 1.98E-03 | 7.50E-05 | 3.07E-22 | | 7.92E-18 | 1.00E-03 | 3.06E-03 |
| TH-234 | | 1.03E-02 | 1.38E-03 | 8.98E-16 | 2.00E-05 | 1.39E-18 | 2.17E+00 | 2.18E+00 |
| TL-207 | | 1.30E-05 | 1.87E-07 | 2.84E-20 | 3.36E-07 | 6.63E-13 | 2.41E-03 | 2.42E-03 |
| TL-208 | | 4.89E-04 | 6.20E-06 | 2.97E-25 | | 4.16E-19 | 5.38E-01 | 5.39E-01 |
| TL-209 | | 1.06E-05 | 2.46E-06 | 1.66E-21 | | 1.35E-15 | 1.17E-03 | 1.18E-03 |
| TL-210 | | 5.18E-04 | 3.92E-15 | 3.20E-19 | 1.59E-21 | 1.99E-35 | 1.60E-14 | 5.18E-04 |
| U-232 | | | | | | | 1.92E+00 | 1.92E+00 |
| U-233 | | 4.55E-01 | 2.41E-01 | 3.67E-15 | | 1.12E-10 | 1.42E+02 | 1.42E+02 |
| U-234 | | 1.28E+00 | 4.40E-04 | 2.34E-06 | 3.35E-10 | 8.94E-24 | 5.88E-03 | 1.28E+00 |
| U-235 | 4.22E-06 | 1.23E-01 | 5.41E-03 | 3.64E-13 | 8.31E-03 | 3.24E-08 | 3.67E+02 | 3.67E+02 |
| U-236 | | 7.63E-05 | 2.85E-06 | 1.24E-11 | | 3.83E-08 | 1.25E-07 | 7.93E-05 |
| U-237 | 2.02E-05 | 1.12E-01 | 1.30E-03 | 4.90E-06 | | 1.78E-09 | 2.52E-12 | 1.14E-01 |
| U-238 | | 1.03E-02 | 1.38E-03 | 9.93E-16 | 2.00E-05 | 1.43E-18 | 2.17E+00 | 2.18E+00 |

**RH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | ANLE | HANF | INEL | KAPL | LANL | NVTS | ORNL | Total Curies |
|--------------|----------|----------|----------|----------|----------|----------|----------|--------------|
| U-240 | | | | | | 4.46E-16 | 2.69E-11 | 2.69E-11 |
| Y-90 | | 5.74E+03 | 1.78E+03 | 2.46E+01 | 2.69E+03 | | 9.71E+04 | 1.07E+05 |
| ZR-93 | | 2.73E-01 | 2.80E-04 | 8.19E-06 | 2.27E-03 | | | 2.76E-01 |
| ZR-95 | | 1.06E-10 | 6.82E-09 | 1.21E-02 | 2.79E-11 | | 6.27E-01 | 6.39E-01 |
| | | | | | | | | |
| Total | 2.39E+01 | 3.84E+04 | 7.79E+03 | 1.03E+02 | 1.18E+04 | 1.71E+02 | 2.90E+05 | 3.49E+05 |

**Site-Specific Stored Radionuclide Inventories
from Draft Revision 10 IDB**

Contact-Handled

**CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory**

| Nuclide | ANLE | ETEC | HANF | INEL |
|----------------|-------------|-------------|-------------|-------------|
| AC-225 | 8.22E-06 | | 1.13E-01 | 1.34E+00 |
| AC-227 | 3.78E-13 | | 4.47E-05 | 4.11E-02 |
| AC-228 | 2.45E-17 | | 5.05E-02 | 3.02E-01 |
| AG-109M | | | | |
| AG-110 | | | 1.82E-06 | 1.42E-08 |
| AG-110M | | | 1.37E-04 | 1.07E-06 |
| AM-241 | 5.73E+00 | 4.43E-01 | 2.98E+03 | 8.98E+04 |
| AM-242 | | | | |
| AM-242M | | | | |
| AM-243 | 9.52E-02 | | 9.10E-02 | 3.79E-01 |
| AM-245 | | | | 5.43E-09 |
| AT-217 | 8.22E-06 | | 1.13E-01 | 1.34E+00 |
| BA-137M | | 2.27E-01 | 6.65E+02 | 5.98E+01 |
| BI-210 | 3.64E-06 | | 5.38E-02 | 2.56E-02 |
| BI-211 | 3.52E-13 | | 4.42E-05 | 4.13E-02 |
| BI-212 | 8.05E-18 | | 2.00E-01 | 2.66E+01 |
| BI-213 | 8.22E-06 | | 1.13E-01 | 1.34E+00 |
| BI-214 | 1.19E-04 | | 3.16E-01 | 4.80E-02 |
| BK-249 | | | | 3.74E-04 |
| BK-250 | | | | |
| C-14 | | | 5.88E+00 | 1.66E-01 |
| CD-109 | | | | |
| CD-113M | | | 1.44E-05 | 3.72E-08 |
| CE-144 | | | 2.66E+01 | 1.98E-01 |
| CF-249 | | | | 1.02E-02 |
| CF-250 | | | | |
| CF-251 | | | | |
| CF-252 | | | 5.96E+01 | 3.69E-03 |
| CM-242 | | | | 6.08E-07 |

**CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | ANLE | ETEC | HANF | INEL |
|---------|----------|----------|----------|----------|
| CM-243 | | | 6.88E-02 | |
| CM-244 | | | 1.07E+02 | 5.31E+02 |
| CM-245 | | | 1.68E+01 | 7.36E-06 |
| CM-246 | | | | 1.53E-03 |
| CM-247 | | | | |
| CM-248 | | | 7.64E-03 | 4.61E-07 |
| CO-58 | | | 1.79E-05 | 1.57E-11 |
| CO-60 | | | 2.32E+01 | 8.13E+01 |
| CS-134 | | | 1.90E+00 | 2.48E-03 |
| CS-135 | | | 2.39E-03 | 8.53E-06 |
| CS-137 | | 2.40E-01 | 7.03E+02 | 6.32E+01 |
| ES-254 | | | | |
| EU-150 | | | | 3.64E-05 |
| EU-152 | | | 1.97E+00 | 1.80E-01 |
| EU-154 | | | 9.47E+00 | 7.56E-01 |
| EU-155 | | | 1.30E+01 | 5.08E-01 |
| FE-55 | | | | 3.25E-05 |
| FE-59 | | | 9.20E-06 | 2.64E-16 |
| FR-221 | 8.22E-06 | | 1.13E-01 | 1.34E+00 |
| FR-223 | 5.21E-15 | | 6.17E-07 | 5.67E-04 |
| H-3 | | | 3.08E-08 | 8.91E-01 |
| I-129 | | | 4.16E-10 | |
| KR-85 | | | | |
| MN-54 | | | 1.99E-03 | 4.30E-03 |
| NB-95 | | | 1.61E-01 | 6.88E-06 |
| NB-95M | | | 5.39E-04 | 2.30E-08 |
| NI-59 | | | | |
| NI-63 | | | | 9.20E-05 |
| NP-237 | 1.53E-03 | | 2.61E-01 | 7.94E-01 |
| NP-238 | | | | |

**CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | ANLE | ETEC | HANF | INEL |
|---------|----------|----------|----------|----------|
| NP-239 | 9.52E-02 | | 9.10E-02 | 3.79E-01 |
| NP-240 | | | 5.07E-13 | 3.05E-17 |
| NP-240M | | | 4.60E-10 | 2.77E-14 |
| PA-231 | | | 1.91E-04 | 1.06E-05 |
| PA-233 | 6.15E-07 | | 2.61E-01 | 7.91E-01 |
| PA-234 | 9.89E-15 | | 7.87E-03 | 1.50E-04 |
| PA-234M | 7.60E-12 | | 6.04E+00 | 1.16E-01 |
| PB-209 | 8.22E-06 | | 1.13E-01 | 1.34E+00 |
| PB-210 | 3.64E-06 | | 5.38E-02 | 2.56E-02 |
| PB-211 | 3.52E-13 | | 4.42E-05 | 4.13E-02 |
| PB-212 | 8.05E-18 | | 2.00E-01 | 2.66E+01 |
| PB-214 | 1.19E-04 | | 3.16E-01 | 4.80E-02 |
| PD-107 | | | 3.53E-04 | 1.26E-06 |
| PM-147 | | | 4.04E+02 | 4.48E+00 |
| PO-210 | 1.85E-06 | | 4.73E-02 | 2.43E-02 |
| PO-211 | 9.60E-16 | | 1.21E-07 | 1.13E-04 |
| PO-212 | 5.16E-18 | | 1.28E-01 | 1.71E+01 |
| PO-213 | 8.04E-06 | | 1.11E-01 | 1.31E+00 |
| PO-214 | 1.19E-04 | | 3.16E-01 | 4.80E-02 |
| PO-215 | 3.52E-13 | | 4.42E-05 | 4.13E-02 |
| PO-216 | 8.05E-18 | | 2.00E-01 | 2.66E+01 |
| PO-218 | 1.19E-04 | | 3.16E-01 | 4.80E-02 |
| PR-144 | | | 2.66E+01 | 1.98E-01 |
| PU-236 | | | | 1.68E-02 |
| PU-238 | 2.14E+00 | 1.12E-01 | 8.18E+04 | 6.07E+04 |
| PU-239 | 3.28E+01 | 1.76E+00 | 2.70E+04 | 4.01E+04 |
| PU-240 | 9.42E+00 | 6.01E-01 | 6.06E+03 | 9.82E+03 |
| PU-241 | 5.98E+01 | 8.06E+00 | 9.43E+04 | 1.65E+05 |
| PU-242 | 1.00E-02 | 4.00E-05 | 3.70E-01 | 9.44E-01 |
| PU-243 | | | | |

CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)

| Nuclide | ANLE | ETEC | HANF | INEL |
|---------|----------|----------|----------|----------|
| PU-244 | | | 4.61E-10 | 2.78E-14 |
| RA-223 | 3.52E-13 | | 4.42E-05 | 4.13E-02 |
| RA-224 | 8.05E-18 | | 2.00E-01 | 2.66E+01 |
| RA-225 | 8.33E-06 | | 1.14E-01 | 1.34E+00 |
| RA-226 | 1.19E-04 | | 3.16E-01 | 4.80E-02 |
| RA-228 | 2.45E-17 | | 5.05E-02 | 3.02E-01 |
| RH-106 | | | 1.30E+01 | 4.80E-02 |
| RN-219 | 3.52E-13 | | 4.42E-05 | 4.13E-02 |
| RN-220 | 8.05E-18 | | 2.00E-01 | 2.66E+01 |
| RN-222 | 1.19E-04 | | 3.16E-01 | 4.80E-02 |
| RU-106 | | | 1.30E+01 | 4.80E-02 |
| SB-125 | | | 5.09E+00 | 6.16E-03 |
| SB-126 | | | 6.42E-04 | 2.30E-06 |
| SB-126M | | | 4.58E-03 | 1.64E-05 |
| SE-79 | | | 2.07E-03 | 7.40E-06 |
| SM-151 | | | 7.57E+00 | 2.56E-02 |
| SN-119M | | | 2.21E-03 | 1.76E-05 |
| SN-121M | | | 1.47E-01 | 4.76E-04 |
| SN-126 | | | 4.58E-03 | 1.64E-05 |
| SR-90 | | 2.30E-01 | 7.11E+02 | 2.17E+00 |
| TC-99 | | | 1.19E-01 | 2.19E-03 |
| TE-125M | | | 2.13E-04 | 3.97E-09 |
| TE-127 | | | 9.99E-03 | 1.12E-05 |
| TE-127M | | | 1.02E-02 | 1.15E-05 |
| TH-227 | 3.61E-13 | | 4.44E-05 | 4.12E-02 |
| TH-228 | 8.13E-18 | | 1.99E-01 | 2.66E+01 |
| TH-229 | 8.50E-06 | | 1.14E-01 | 1.35E+00 |
| TH-230 | 7.02E-10 | | 6.91E-03 | 2.07E-02 |
| TH-231 | 5.95E-04 | | 5.68E-01 | 6.17E-02 |
| TH-232 | 1.63E-16 | | 6.38E-02 | 3.30E-01 |

**CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | ANLE | ETEC | HANF | INEL |
|---------|----------|----------|----------|----------|
| TH-234 | 7.61E-12 | | 6.05E+00 | 1.16E-01 |
| TL-207 | 3.51E-13 | | 4.41E-05 | 4.11E-02 |
| TL-208 | 2.89E-18 | | 7.18E-02 | 9.56E+00 |
| TL-209 | 1.78E-07 | | 2.45E-03 | 2.89E-02 |
| TL-210 | 2.50E-08 | | 6.63E-05 | 1.01E-05 |
| U-232 | | | | 2.58E+01 |
| U-233 | 3.00E-02 | | 7.92E+01 | 8.98E+02 |
| U-234 | 3.10E-05 | | 5.14E+01 | 5.83E+00 |
| U-235 | 5.95E-04 | | 5.68E-01 | 6.17E-02 |
| U-236 | 1.35E-06 | | 2.13E-03 | 4.68E-03 |
| U-237 | 1.47E-03 | 1.97E-04 | 2.31E+00 | 4.04E+00 |
| U-238 | 5.33E-05 | | 6.05E+00 | 1.16E-01 |
| U-240 | | | 4.60E-10 | 2.77E-14 |
| Y-90 | | 2.30E-01 | 7.11E+02 | 2.17E+00 |
| ZN-65 | | | | 1.21E-08 |
| ZR-93 | | | 2.68E-02 | 9.58E-05 |
| ZR-95 | | | 7.27E-02 | 3.10E-06 |
| | | | | |
| Total | 1.10E+02 | 1.19E+01 | 2.16E+05 | 3.67E+05 |

| Nuclide | LBL | LLNL | LANL | MOUND |
|---------|----------|----------|----------|----------|
| AC-225 | 4.50E-06 | 1.90E-13 | 7.18E-02 | |
| AC-227 | 1.02E-16 | 1.80E-12 | 2.47E-01 | 4.28E-11 |
| AC-228 | 1.00E-19 | 5.07E-17 | 1.46E-03 | |
| AG-109M | | | 1.95E+01 | |
| AG-110 | | | 3.07E-11 | |
| AG-110M | | | 2.31E-09 | |
| AM-241 | 9.20E-02 | 1.26E+02 | 8.70E+03 | |
| AM-242 | | 3.93E-03 | | |
| AM-242M | | 3.95E-03 | | |

**CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | LBL | LLNL | LANL | MOUND |
|----------------|------------|-------------|-------------|--------------|
| AM-243 | 3.85E-02 | 5.23E-03 | 4.75E+00 | |
| AM-245 | 1.75E-13 | | 9.49E-15 | |
| AT-217 | 4.50E-06 | 1.90E-13 | 7.18E-02 | |
| BA-137M | | 1.89E-06 | 5.03E+01 | |
| BI-210 | 7.39E-03 | 4.29E-14 | 2.40E-01 | 3.53E-10 |
| BI-211 | 9.53E-17 | 1.57E-12 | 2.48E-01 | 4.18E-11 |
| BI-212 | 5.20E-20 | 4.20E-09 | 1.13E-03 | |
| BI-213 | 4.50E-06 | 1.90E-13 | 7.18E-02 | |
| BI-214 | 3.37E-02 | 1.19E-12 | 9.02E-01 | 3.05E-09 |
| BK-249 | 1.21E-08 | | 6.54E-10 | |
| BK-250 | 5.44E-07 | | | |
| C-14 | | | 5.00E-04 | |
| CD-109 | | | 1.95E+01 | |
| CD-113M | | | 8.62E-07 | |
| CE-144 | | | 9.09E-04 | |
| CF-249 | 3.11E-03 | | 9.67E-04 | |
| CF-250 | 2.19E-04 | | | |
| CF-251 | | | 1.58E-03 | |
| CF-252 | | | | |
| CM-242 | | 8.39E-04 | 7.61E-16 | |
| CM-243 | | | 4.49E-01 | |
| CM-244 | 2.20E-02 | 3.21E+01 | 1.68E+02 | |
| CM-245 | 1.76E-06 | | 1.44E-06 | |
| CM-246 | 3.71E-07 | 6.22E-04 | 4.01E-02 | |
| CM-247 | | | 1.20E-09 | |
| CM-248 | | | | |
| CO-58 | | | 1.11E-08 | |
| CO-60 | | | 2.29E-02 | |
| CS-134 | | | 8.77E-03 | |
| CS-135 | | | 2.17E-04 | |

**CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | LBL | LLNL | LANL | MOUND |
|----------------|------------|-------------|-------------|--------------|
| CS-137 | | 1.99E-06 | 5.32E+01 | |
| ES-254 | 5.44E-07 | | | |
| EU-150 | | | | |
| EU-152 | | 1.19E-06 | 9.18E-04 | |
| EU-154 | | 3.75E-07 | 3.38E-02 | |
| EU-155 | | | 3.23E-01 | |
| FE-55 | | | | |
| FE-59 | | | 1.04E-10 | |
| FR-221 | 4.50E-06 | 1.90E-13 | 7.18E-02 | |
| FR-223 | 1.41E-18 | 2.49E-14 | 3.40E-03 | 5.90E-13 |
| H-3 | | | | |
| I-129 | | | | |
| KR-85 | | | | |
| MN-54 | | | 3.08E-04 | |
| NB-95 | | | 9.98E-09 | |
| NB-95M | | | 3.34E-11 | |
| NI-59 | | | | |
| NI-63 | | | | |
| NP-237 | 7.22E-03 | 4.04E-04 | 2.69E-02 | |
| NP-238 | | 1.98E-05 | | |
| NP-239 | 3.85E-02 | 5.23E-03 | 4.75E+00 | |
| NP-240 | | | | |
| NP-240M | | | | |
| PA-231 | 2.00E-15 | 5.71E-11 | 1.20E-03 | 2.97E-10 |
| PA-233 | 7.22E-03 | 4.00E-04 | 2.64E-02 | |
| PA-234 | 1.97E-14 | 4.43E-07 | 5.26E-06 | |
| PA-234M | 1.51E-11 | 3.40E-04 | 4.04E-03 | |
| PB-209 | 4.50E-06 | 1.90E-13 | 7.18E-02 | |
| PB-210 | 7.39E-03 | 4.29E-14 | 2.40E-01 | 3.53E-10 |
| PB-211 | 9.53E-17 | 1.57E-12 | 2.48E-01 | 4.18E-11 |

**CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | LBL | LLNL | LANL | MOUND |
|----------------|------------|-------------|-------------|--------------|
| PB-212 | 5.20E-20 | 4.20E-09 | 1.13E-03 | |
| PB-214 | 3.37E-02 | 1.19E-12 | 9.02E-01 | 3.05E-09 |
| PD-107 | | | 3.21E-05 | |
| PM-147 | | | 3.58E+00 | |
| PO-210 | 6.67E-03 | 2.74E-14 | 2.20E-01 | 2.98E-10 |
| PO-211 | 2.60E-19 | 4.28E-15 | 6.76E-04 | 1.14E-13 |
| PO-212 | 3.33E-20 | 2.69E-09 | 7.24E-04 | |
| PO-213 | 4.40E-06 | 1.86E-13 | 7.03E-02 | |
| PO-214 | 3.37E-02 | 1.19E-12 | 9.02E-01 | 3.05E-09 |
| PO-215 | 9.53E-17 | 1.57E-12 | 2.48E-01 | 4.18E-11 |
| PO-216 | 5.20E-20 | 4.20E-09 | 1.13E-03 | |
| PO-218 | 3.37E-02 | 1.19E-12 | 9.02E-01 | 3.05E-09 |
| PR-144 | | | 9.09E-04 | |
| PU-236 | | | | |
| PU-238 | 2.36E-04 | 1.97E+01 | 1.15E+05 | 7.16E+02 |
| PU-239 | 7.70E-03 | 1.46E+02 | 7.33E+04 | 1.99E+02 |
| PU-240 | 5.07E-03 | 6.06E+01 | 1.52E-01 | |
| PU-241 | 2.89E-07 | 1.67E+03 | 1.77E+00 | |
| PU-242 | 1.01E-02 | 1.92E-02 | 5.08E+02 | |
| PU-243 | | | 1.20E-09 | |
| PU-244 | | | | |
| RA-223 | 9.53E-17 | 1.57E-12 | 2.48E-01 | 4.18E-11 |
| RA-224 | 5.20E-20 | 4.20E-09 | 1.13E-03 | |
| RA-225 | 4.51E-06 | 1.97E-13 | 7.20E-02 | |
| RA-226 | 3.37E-02 | 1.19E-12 | 9.02E-01 | 3.05E-09 |
| RA-228 | 1.00E-19 | 5.07E-17 | 1.46E-03 | |
| RH-106 | | | 4.17E-03 | |
| RN-219 | 9.53E-17 | 1.57E-12 | 2.48E-01 | 4.18E-11 |
| RN-220 | 5.20E-20 | 4.20E-09 | 1.13E-03 | |
| RN-222 | 3.37E-02 | 1.19E-12 | 9.02E-01 | 3.05E-09 |

**CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | LBL | LLNL | LANL | MOUND |
|---------|----------|----------|----------|----------|
| RU-106 | | | 4.17E-03 | |
| SB-125 | | 4.08E-08 | 5.05E-02 | |
| SB-126 | | | 5.84E-05 | |
| SB-126M | | | 4.17E-04 | |
| SE-79 | | | 1.88E-04 | |
| SM-151 | | | 6.44E-01 | |
| SN-119M | | | 3.47E-08 | |
| SN-121M | | | 1.18E-02 | |
| SN-126 | | | 4.17E-04 | |
| SR-90 | | | 4.92E+01 | |
| TC-99 | | | 1.08E-02 | |
| TE-125M | | | 5.27E-08 | |
| TE-127 | | | 1.51E-08 | |
| TE-127M | | | 1.55E-08 | |
| TH-227 | 9.79E-17 | 1.66E-12 | 2.47E-01 | 4.22E-11 |
| TH-228 | 5.22E-20 | 4.17E-09 | 1.13E-03 | |
| TH-229 | 4.54E-06 | 2.09E-13 | 7.22E-02 | |
| TH-230 | 7.71E-14 | 1.86E-09 | 3.90E-04 | 1.37E-06 |
| TH-231 | 3.79E-11 | 1.32E-04 | 4.18E-01 | 2.06E-06 |
| TH-232 | 3.69E-19 | 3.70E-16 | 2.40E-03 | |
| TH-234 | 1.52E-11 | 3.41E-04 | 4.05E-03 | |
| TL-207 | 9.50E-17 | 1.56E-12 | 2.47E-01 | 4.17E-11 |
| TL-208 | 1.87E-20 | 1.51E-09 | 4.06E-04 | |
| TL-209 | 9.71E-08 | 4.10E-15 | 1.55E-03 | |
| TL-210 | 7.07E-06 | 2.49E-16 | 1.89E-04 | 6.41E-13 |
| U-232 | | | | |
| U-233 | 4.81E-03 | 2.19E-09 | 4.46E+01 | |
| U-234 | 3.41E-09 | 1.10E-04 | 5.19E+00 | 2.19E-02 |
| U-235 | 3.79E-11 | 1.32E-04 | 4.18E-01 | 2.06E-06 |
| U-236 | 1.50E-09 | 3.92E-06 | 1.95E-08 | |

**CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | LBL | LLNL | LANL | MOUND |
|---------|----------|----------|----------|----------|
| U-237 | 7.07E-12 | 4.10E-02 | 4.34E-05 | |
| U-238 | 1.53E-11 | 3.53E-04 | 4.05E-03 | |
| U-240 | | | | |
| Y-90 | | | 4.92E+01 | |
| ZN-65 | | | | |
| ZR-93 | | | 2.43E-03 | |
| ZR-95 | | | 4.50E-09 | |
| | | | | |
| Total | 4.60E-01 | 2.06E+03 | 1.98E+05 | 9.14E+02 |

| Nuclide | NVTS | ORNL | PADU | PANTEX |
|---------|----------|----------|------|--------|
| AC-225 | 2.05E-03 | 1.19E-01 | | |
| AC-227 | 1.90E-04 | 3.11E-07 | | |
| AC-228 | 8.75E-17 | 3.03E-02 | | |
| AG-109M | | | | |
| AG-110 | 2.22E-10 | 5.96E-12 | | |
| AG-110M | 1.67E-08 | 4.48E-10 | | |
| AM-241 | 2.84E+02 | 2.33E+03 | | |
| AM-242 | | | | |
| AM-242M | | | | |
| AM-243 | 1.22E+00 | 9.35E+00 | | |
| AM-245 | 2.57E-13 | 2.67E-09 | | |
| AT-217 | 2.05E-03 | 1.19E-01 | | |
| BA-137M | 3.76E-01 | 2.06E+03 | | |
| BI-210 | 5.53E-02 | 9.95E-02 | | |
| BI-211 | 1.89E-04 | 3.07E-07 | | |
| BI-212 | 1.62E-02 | 2.94E-01 | | |
| BI-213 | 2.05E-03 | 1.19E-01 | | |
| BI-214 | 2.50E-01 | 1.61E+00 | | |
| BK-249 | 1.77E-08 | 1.84E-04 | | |

**CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | NVTS | ORNL | PADU | PANTEX |
|---------|----------|----------|------|--------|
| BK-250 | 2.57E-10 | | | |
| C-14 | 2.50E-04 | | | |
| CD-109 | | | | |
| CD-113M | 7.56E-09 | 2.94E-08 | | |
| CE-144 | 5.03E-03 | 1.66E-04 | | |
| CF-249 | 1.14E-02 | 1.12E+00 | | |
| CF-250 | 3.53E-01 | | | |
| CF-251 | | | | |
| CF-252 | 2.88E-02 | 4.05E-01 | | |
| CM-242 | | 3.15E-03 | | |
| CM-243 | | | | |
| CM-244 | 2.46E+02 | 1.25E+03 | | |
| CM-245 | 7.57E-06 | 1.64E-03 | | |
| CM-246 | 5.15E-04 | | | |
| CM-247 | | | | |
| CM-248 | 3.48E-06 | 1.96E-02 | | |
| CO-58 | | | | |
| CO-60 | | 1.22E-02 | | |
| CS-134 | 8.34E-04 | 1.40E-04 | | |
| CS-135 | 1.27E-06 | 9.22E-06 | | |
| CS-137 | 3.97E-01 | 2.17E+03 | | |
| ES-254 | 2.57E-10 | | | |
| EU-150 | | | | |
| EU-152 | 1.17E+00 | 1.68E-05 | | |
| EU-154 | 5.03E-01 | 8.94E-04 | | |
| EU-155 | 5.31E-03 | 6.43E-03 | | |
| FE-55 | | | | |
| FE-59 | | 1.44E-02 | | |
| FR-221 | 2.05E-03 | 1.19E-01 | | |
| FR-223 | 2.62E-06 | 4.30E-09 | | |

**CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | NVTS | ORNL | PADU | PANTEX |
|----------------|-------------|-------------|-------------|---------------|
| H-3 | 7.18E-02 | | | |
| I-129 | | | | |
| KR-85 | 2.24E-01 | | | |
| MN-54 | | | | |
| NB-95 | 4.37E-14 | 2.33E-16 | | |
| NB-95M | 1.46E-16 | 7.77E-19 | | |
| NI-59 | | | | |
| NI-63 | | 1.11E-04 | | |
| NP-237 | 5.59E-03 | 6.03E+00 | 5.49E+01 | |
| NP-238 | | | | |
| NP-239 | 1.22E+00 | 9.35E+00 | | |
| NP-240 | 1.10E-09 | 8.71E-13 | | |
| NP-240M | 9.99E-07 | 7.91E-10 | | |
| PA-231 | 5.00E-04 | 1.56E-06 | | |
| PA-233 | 5.58E-03 | 6.03E+00 | | |
| PA-234 | 7.26E-08 | 3.42E-05 | | |
| PA-234M | 5.58E-05 | 2.63E-02 | | |
| PB-209 | 2.05E-03 | 1.19E-01 | | |
| PB-210 | 5.53E-02 | 9.95E-02 | | |
| PB-211 | 1.89E-04 | 3.07E-07 | | |
| PB-212 | 1.62E-02 | 2.94E-01 | | |
| PB-214 | 2.50E-01 | 1.61E+00 | | |
| PD-107 | 1.88E-07 | 1.36E-06 | | |
| PM-147 | 1.87E-01 | 7.20E-02 | | |
| PO-210 | 4.99E-02 | 7.06E-02 | | |
| PO-211 | 5.15E-07 | 8.37E-10 | | |
| PO-212 | 1.04E-02 | 1.88E-01 | | |
| PO-213 | 2.00E-03 | 1.16E-01 | | |
| PO-214 | 2.50E-01 | 1.60E+00 | | |
| PO-215 | 1.89E-04 | 3.07E-07 | | |

**CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | NVTS | ORNL | PADU | PANTEX |
|---------|----------|----------|----------|----------|
| PO-216 | 1.62E-02 | 2.94E-01 | | |
| PO-218 | 2.50E-01 | 1.61E+00 | | |
| PR-144 | 5.03E-03 | 1.66E-04 | | |
| PU-236 | | | | |
| PU-238 | 1.98E+02 | 6.78E+03 | | |
| PU-239 | 2.76E+03 | 7.95E+02 | 5.56E+01 | 5.55E-02 |
| PU-240 | 1.87E+01 | 7.25E+02 | | |
| PU-241 | 2.64E+02 | 5.52E+04 | | |
| PU-242 | 8.70E-02 | 5.46E+00 | | |
| PU-243 | | | | |
| PU-244 | 1.00E-06 | 7.92E-10 | | |
| RA-223 | 1.89E-04 | 3.07E-07 | | |
| RA-224 | 1.62E-02 | 2.94E-01 | | |
| RA-225 | 2.06E-03 | 1.19E-01 | | |
| RA-226 | 2.50E-01 | 1.61E+00 | | |
| RA-228 | 8.75E-17 | 3.03E-02 | | |
| RH-106 | 3.90E-03 | 1.87E-04 | | |
| RN-219 | 1.89E-04 | 3.07E-07 | | |
| RN-220 | 1.62E-02 | 2.94E-01 | | |
| RN-222 | 2.50E-01 | 1.61E+00 | | |
| RU-106 | 3.90E-03 | 1.87E-04 | | |
| SB-125 | 2.38E-03 | 8.38E-04 | | |
| SB-126 | 3.42E-07 | 2.48E-06 | | |
| SB-126M | 2.44E-06 | 1.77E-05 | | |
| SE-79 | 1.10E-06 | 8.00E-06 | | |
| SM-151 | 4.03E-03 | 2.64E-02 | | |
| SN-119M | 2.49E-07 | 6.44E-09 | | |
| SN-121M | 7.80E-05 | 4.71E-04 | | |
| SN-126 | 2.44E-06 | 1.77E-05 | | |
| SR-90 | 3.44E-01 | 1.29E+03 | | |

**CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | NVTS | ORNL | PADU | PANTEX |
|----------------|-----------------|-----------------|-----------------|-----------------|
| TC-99 | 6.34E-05 | 1.78E+01 | | |
| TE-125M | 3.28E-18 | 1.73E-20 | | |
| TE-127 | 2.52E-10 | 1.72E-12 | | |
| TE-127M | 2.58E-10 | 1.76E-12 | | |
| TH-227 | 1.89E-04 | 3.08E-07 | | |
| TH-228 | 1.62E-02 | 2.94E-01 | | |
| TH-229 | 2.07E-03 | 1.19E-01 | | |
| TH-230 | 7.98E-07 | 6.52E-04 | | |
| TH-231 | 5.61E-05 | 6.56E-03 | | |
| TH-232 | 4.59E-16 | 3.42E-02 | | |
| TH-234 | 5.59E-05 | 2.63E-02 | | |
| TL-207 | 1.88E-04 | 3.06E-07 | | |
| TL-208 | 5.82E-03 | 1.06E-01 | | |
| TL-209 | 4.42E-05 | 2.56E-03 | | |
| TL-210 | 5.24E-05 | 3.37E-04 | | |
| U-232 | 1.68E-02 | 2.88E-01 | | |
| U-233 | 1.81E+00 | 8.93E+01 | | |
| U-234 | 1.15E-02 | 8.90E+00 | | |
| U-235 | 5.61E-05 | 6.56E-03 | | |
| U-236 | 3.08E-06 | 2.43E-04 | | |
| U-237 | 6.46E-03 | 1.35E+00 | | |
| U-238 | 5.59E-05 | 3.53E-02 | | |
| U-240 | 9.99E-07 | 7.91E-10 | | |
| Y-90 | 3.44E-01 | 1.29E+03 | | |
| ZN-65 | | | | |
| ZR-93 | 1.43E-05 | 1.04E-04 | | |
| ZR-95 | 1.97E-14 | 1.05E-16 | | |
| | | | | |
| Total | 3.78E+03 | 7.41E+04 | 1.11E+02 | 5.55E-02 |

CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)

| Nuclide | RFP | SNLA | SRS | MURR | Total Curies |
|---------|----------|----------|----------|----------|--------------|
| AC-225 | 9.37E-12 | 1.26E-19 | 1.13E-05 | | 1.65E+00 |
| AC-227 | 4.81E-11 | 5.83E-21 | 2.92E-07 | | 2.88E-01 |
| AC-228 | 3.36E-15 | | 8.72E-03 | | 3.93E-01 |
| AG-109M | | | | | 1.95E+01 |
| AG-110 | | | | | 1.83E-06 |
| AG-110M | | | | | 1.38E-04 |
| AM-241 | 1.08E+04 | 1.00E-02 | 1.60E+04 | 4.80E-02 | 1.31E+05 |
| AM-242 | | | | | 3.93E-03 |
| AM-242M | | | | | 3.95E-03 |
| AM-243 | | | 7.55E-01 | | 1.67E+01 |
| AM-245 | | | | | 8.09E-09 |
| AT-217 | 9.37E-12 | 1.26E-19 | 1.13E-05 | | 1.65E+00 |
| BA-137M | | | 6.41E-01 | | 2.83E+03 |
| BI-210 | 1.06E-12 | | 7.89E-07 | | 4.82E-01 |
| BI-211 | 4.43E-11 | 5.18E-21 | 2.87E-07 | | 2.89E-01 |
| BI-212 | 9.05E-16 | | 8.08E-03 | | 2.71E+01 |
| BI-213 | 9.37E-12 | 1.26E-19 | 1.13E-05 | | 1.65E+00 |
| BI-214 | 2.94E-11 | | 5.54E-06 | | 3.15E+00 |
| BK-249 | | | | | 5.58E-04 |
| BK-250 | | | | | 5.44E-07 |
| C-14 | | | | | 6.05E+00 |
| CD-109 | | | | | 1.95E+01 |
| CD-113M | | | | | 1.53E-05 |
| CE-144 | | | 5.37E-12 | | 2.68E+01 |
| CF-249 | | | | | 1.15E+00 |
| CF-250 | | | | | 3.54E-01 |
| CF-251 | | | | | 1.58E-03 |
| CF-252 | | | 6.12E-01 | | 6.06E+01 |

**CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | RFP | SNLA | SRS | MURR | Total Curies |
|---------|----------|----------|----------|----------|--------------|
| CM-242 | | | | | 3.99E-03 |
| CM-243 | | | | | 5.18E-01 |
| CM-244 | | | 6.57E+02 | | 2.99E+03 |
| CM-245 | | | | | 1.68E+01 |
| CM-246 | | | | | 4.28E-02 |
| CM-247 | | | | | 1.20E-09 |
| CM-248 | | | 1.59E-04 | | 2.74E-02 |
| CO-58 | | | | | 1.79E-05 |
| CO-60 | | | 5.90E-02 | | 1.05E+02 |
| CS-134 | | | | | 1.91E+00 |
| CS-135 | | | | | 2.62E-03 |
| CS-137 | | | 6.77E-01 | | 3.00E+03 |
| ES-254 | | | | | 5.44E-07 |
| EU-150 | | | | | 3.64E-05 |
| EU-152 | | | | | 3.32E+00 |
| EU-154 | | | 3.34E-04 | | 1.08E+01 |
| EU-155 | | | 4.14E-06 | | 1.39E+01 |
| FE-55 | | | | | 3.25E-05 |
| FE-59 | | | | | 1.44E-02 |
| FR-221 | 9.37E-12 | 1.26E-19 | 1.13E-05 | | 1.65E+00 |
| FR-223 | 6.64E-13 | 8.04E-23 | 4.02E-09 | | 3.98E-03 |
| H-3 | | | | | 9.62E-01 |
| I-129 | | | | | 4.16E-10 |
| KR-85 | | | | | 2.24E-01 |
| MN-54 | | | 5.03E-10 | | 6.60E-03 |
| NB-95 | | | | | 1.61E-01 |
| NB-95M | | | | | 5.39E-04 |
| NI-59 | | | 1.25E-03 | | 1.25E-03 |
| NI-63 | | | 1.55E-01 | | 1.55E-01 |
| NP-237 | 9.97E-03 | 3.25E-09 | 8.62E+00 | 1.80E-04 | 7.07E+01 |

CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)

| Nuclide | RFP | SNLA | SRS | MURR | Total Curies |
|---------|----------|----------|----------|----------|--------------|
| NP-238 | | | | | 1.98E-05 |
| NP-239 | | | 7.55E-01 | | 1.67E+01 |
| NP-240 | | | 1.47E-14 | | 1.10E-09 |
| NP-240M | | | 1.34E-11 | | 1.00E-06 |
| PA-231 | 1.09E-09 | 1.87E-19 | 1.44E-06 | | 1.90E-03 |
| PA-233 | 9.59E-03 | 2.90E-09 | 8.61E+00 | | 1.57E+01 |
| PA-234 | | | 6.76E-06 | | 8.06E-03 |
| PA-234M | | | 5.19E-03 | | 6.19E+00 |
| PB-209 | 9.37E-12 | 1.26E-19 | 1.13E-05 | | 1.65E+00 |
| PB-210 | 1.06E-12 | | 7.89E-07 | | 4.82E-01 |
| PB-211 | 4.43E-11 | 5.18E-21 | 2.87E-07 | | 2.89E-01 |
| PB-212 | 9.05E-16 | | 8.08E-03 | | 2.71E+01 |
| PB-214 | 2.94E-11 | | 5.54E-06 | | 3.15E+00 |
| PD-107 | | | | | 3.88E-04 |
| PM-147 | | | 2.10E-05 | | 4.13E+02 |
| PO-210 | 6.81E-13 | | 6.85E-07 | | 4.19E-01 |
| PO-211 | 1.21E-13 | 1.41E-23 | 7.84E-10 | | 7.89E-04 |
| PO-212 | 5.80E-16 | | 5.18E-03 | | 1.74E+01 |
| PO-213 | 9.17E-12 | 1.23E-19 | 1.11E-05 | | 1.61E+00 |
| PO-214 | 2.94E-11 | | 5.54E-06 | | 3.15E+00 |
| PO-215 | 4.43E-11 | 5.18E-21 | 2.87E-07 | | 2.89E-01 |
| PO-216 | 9.05E-16 | | 8.08E-03 | | 2.71E+01 |
| PO-218 | 2.94E-11 | | 5.54E-06 | | 3.15E+00 |
| PR-144 | | | 5.37E-12 | | 2.68E+01 |
| PU-236 | | | | | 1.68E-02 |
| PU-238 | 3.47E+02 | | 4.71E+05 | | 7.37E+05 |
| PU-239 | 9.93E+03 | 2.00E-06 | 8.56E+03 | 2.05E-02 | 1.63E+05 |
| PU-240 | 7.21E+03 | | 2.12E+03 | | 2.60E+04 |
| PU-241 | 5.72E+04 | | 6.30E+04 | | 4.37E+05 |
| PU-242 | | | 3.75E-01 | | 5.16E+02 |

**CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | RFP | SNLA | SRS | MURR | Total Curies |
|---------|----------|----------|----------|------|--------------|
| PU-243 | | | | | 1.20E-09 |
| PU-244 | | | 1.34E-11 | | 1.00E-06 |
| RA-223 | 4.43E-11 | 5.18E-21 | 2.87E-07 | | 2.89E-01 |
| RA-224 | 9.05E-16 | | 8.08E-03 | | 2.71E+01 |
| RA-225 | 9.64E-12 | 1.43E-19 | 1.14E-05 | | 1.65E+00 |
| RA-226 | 2.94E-11 | | 5.54E-06 | | 3.15E+00 |
| RA-228 | 3.36E-15 | | 8.72E-03 | | 3.93E-01 |
| RH-106 | | | 8.43E-10 | | 1.31E+01 |
| RN-219 | 4.43E-11 | 5.18E-21 | 2.87E-07 | | 2.89E-01 |
| RN-220 | 9.05E-16 | | 8.08E-03 | | 2.71E+01 |
| RN-222 | 2.94E-11 | | 5.54E-06 | | 3.15E+00 |
| RU-106 | | | 8.43E-10 | | 1.31E+01 |
| SB-125 | | | 4.31E-05 | | 5.15E+00 |
| SB-126 | | | | | 7.05E-04 |
| SB-126M | | | | | 5.04E-03 |
| SE-79 | | | 1.25E-07 | | 2.28E-03 |
| SM-151 | | | 3.18E-04 | | 8.27E+00 |
| SN-119M | | | | | 2.22E-03 |
| SN-121M | | | | | 1.60E-01 |
| SN-126 | | | | | 5.04E-03 |
| SR-90 | | | 1.24E-02 | | 2.06E+03 |
| TC-99 | | | 4.50E-06 | | 1.79E+01 |
| TE-125M | | | 1.04E-28 | | 2.13E-04 |
| TE-127 | | | | | 1.00E-02 |
| TE-127M | | | | | 1.02E-02 |
| TH-227 | 4.57E-11 | 5.42E-21 | 2.89E-07 | | 2.89E-01 |
| TH-228 | 9.16E-16 | | 8.08E-03 | | 2.71E+01 |
| TH-229 | 1.00E-11 | 1.72E-19 | 1.14E-05 | | 1.66E+00 |
| TH-230 | 4.73E-08 | | 1.92E-03 | | 3.06E-02 |
| TH-231 | 2.81E-05 | 5.91E-15 | 5.45E-03 | | 1.06E+00 |

**CH Curies on a Site-by-Site Basis
End of 1993 TRU Inventory (continued)**

| Nuclide | RFP | SNLA | SRS | MURR | Total Curies |
|---------|----------|----------|----------|----------|--------------|
| TH-232 | 3.25E-14 | | 1.03E-02 | | 4.41E-01 |
| TH-234 | | | 5.20E-03 | | 6.20E+00 |
| TL-207 | 4.42E-11 | 5.17E-21 | 2.86E-07 | | 2.88E-01 |
| TL-208 | 3.25E-16 | | 2.90E-03 | | 9.75E+00 |
| TL-209 | 2.02E-13 | 2.72E-21 | 2.45E-07 | | 3.56E-02 |
| TL-210 | 6.18E-15 | | 1.16E-09 | | 6.62E-04 |
| U-232 | | | | | 2.61E+01 |
| U-233 | 7.53E-08 | 5.80E-15 | 8.85E-03 | | 1.11E+03 |
| U-234 | 2.85E-03 | | 2.28E+01 | | 9.41E+01 |
| U-235 | 2.81E-05 | 5.91E-15 | 5.45E-03 | | 1.06E+00 |
| U-236 | 4.89E-04 | | 4.45E-02 | | 5.20E-02 |
| U-237 | 1.40E+00 | | 1.54E+00 | | 1.07E+01 |
| U-238 | | | 5.24E-03 | 1.00E-10 | 6.21E+00 |
| U-240 | | | 1.34E-11 | | 1.00E-06 |
| Y-90 | | | 1.24E-02 | | 2.06E+03 |
| ZN-65 | | | | | 1.21E-08 |
| ZR-93 | | | | | 2.94E-02 |
| ZR-95 | | | | | 7.27E-02 |
| | | | | | |
| Total | 8.55E+04 | 1.00E-02 | 5.62E+05 | 6.87E-02 | 1.51E+06 |

APPENDIX F

APPENDIX F WASTE STREAM IDENTIFICATION CROSS-CORRELATION TABLE

The following tables provide a cross-correlation between the waste stream WIPP ID number, waste stream name, local identifier, TRUCON content code, and NMVP code. The WIPP ID number is used to identify the waste stream profiles. The waste stream name and local identifier are also based on information in the waste stream profiles. The local ID is a site assigned identifier. These may be waste Item Description Codes (IDCs) or other codes which were/are used by the sites in their own waste identification system, or it may be a unique identifier assigned by the site for the purposes of the WTWBIR and/or WIPP data call.

The content codes listed in the TRUCON document were originally provided as a consolidation of the site specific IDCs or codes used under previous waste identification systems. The initial consolidation of the site codes into TRUCON codes was performed in 1988. The majority of these content codes and the correlating IDCs were included in the March, 1990 version of the NMVP. The correlation of the WIPP ID numbers to the TRUCON and NMVP content codes provided in the following tables is based on using the local identifier whenever possible. In many cases, the local identifier or IDC could be traced directly to the IDCs listed in the TRUCON and/or NMVP document. When the IDCs were not provided in the waste stream profile, the correlation was based on matching the waste stream description in the waste stream profile to the descriptions for the content codes in the TRUCON document. A one-to-one correlation between the WIPP ID numbers and the TRUCON and NMVP content codes is not always possible. This is primarily due to one or more of the following reasons:

- The WTWBIR waste stream profiles are typically segregated into mixed and non-mixed waste streams. The TRUCON and NMVP did not provide this segregation.
- Since 1988, when the consolidation of waste streams for the TRUCON was performed, many of the sites have inventoried their wastes into databases, thereby allowing greater segregation and manipulation than that provided in the TRUCON document.
- The WTWBIR provides an inventory of all wastes destined for WIPP. The TRUCON and NMVP only list those waste streams that met the criteria of the TRUPACT-II SARP and the WIPP-WAC.

It is important to note that correlation of an WIPP ID number to a TRUCON or NMVP content code does not imply that the waste stream meets the criteria of the TRUPACT-II SARP or WIPP-WAC. The correlation is provided as guidance only, and is not meant to signify compliance with any of the WIPP criteria or governing regulations.

The first number of a TRUCON content code is a "1" or "2", to provide a distinction between newly generated and retrievably stored waste. For the purposes of the TRUCON, newly generated waste was defined as waste generated after the WIPP waste certification program had been implemented at each site. Retrievably stored waste is waste which was generated before the implementation of the certification program. The WTWBIR does not typically make this distinction, and therefore a WTWBIR waste stream that correlates to a content code listed in TRUCON as 1XX and 2XX, is listed in the correlation tables with both of these codes.

The TRUCON document contains content codes followed by an "A", "B", or "C" letter (i.e., RF 111A, ID 225A). These letters were used for varying reasons. In some cases they were used to distinguish different waste streams within a content code, or to differentiate between different packaging configurations. In other cases they were used to identify waste specifically packaged for the WIPP Test Phase. The letters are only included in the correlation tables if they were used to distinguish between different waste streams. If a letter is not used after the content code in the correlation tables, the waste stream correlates to the "A" content codes.

Correlation tables have been provided for all of the sites except Hanford and the Savannah River Site. There was inadequate information in the TRUCON document and the WTWBIR waste stream profiles to determine a correlation. The waste streams listed in the TRUCON document for these two sites were very general and all-encompassing, whereas the WTWBIR waste streams were more segregated.

ANL-E WASTE STREAM IDENTIFICATION CROSS-CORRELATION TABLE

| Waste Stream Name/Description ^a | WIPP ID | RH/ CH | TRUCON ^{b,c} | NMVP ^{b,c} |
|--|---------|--------|-----------------------|---------------------|
| | AE-T001 | CH | | |
| | AE-T003 | CH | | |
| Aqueous Lab Packs | AE-W038 | CH | | |
| Organic Resins | AE-W039 | CH | | |
| Wastewater Treatment Sludges | AE-W040 | CH | AE 111A | AE 111 |
| Non-activated Lead | AE-W041 | CH | | |
| ^a Cadmium containing metal debris | AE-W042 | CH | | |
| | RF | RH | | |

Footnotes:

- a - Blank fields indicate that no waste stream name was reported in the waste stream profiles.
- b - RH waste streams are not listed in the TRUCON and NMVP.
- c - Local identification or Item Description Codes (IDCs) were not reported in the waste stream profiles. Cross-correlation with TRUCON and NMVP content codes were assigned based on matching physical descriptions.

INEL WASTE STREAM IDENTIFICATION CROSS-CORRELATION TABLE

| Waste Stream Name/Description | LOCAL ID | RH/CH | WIPP ID | Generator | IDC | TRUCON ^{c,d} | NMVP ^d |
|--|-----------------|-------|---------|-----------|------------------|------------------------|-------------------|
| Vitrified Wastes Resulting from Treatment of all Waste | | CH | IN-T001 | | | | |
| Electrorefiner Salts - Ba & Cd | CH-ANL-218T | RH | IN-M001 | ANL-W | | | |
| TRU-Cd Hot Cell Waste | CH-ANL-241T | RH | IN-M002 | ANL-W | | | |
| Element Hardware FCF Waste | CH-ANL-243T | RH | IN-M003 | ANL-W | | | |
| Electrorefiner Stripped Cadmium | CH-ANL-245T | RH | IN-M004 | ANL-W | | | |
| Electrorefiner Insolubles w/Cd & other met | CH-ANL-246T | RH | IN-M005 | ANL-W | | | |
| Lead Contaminated Waste, Mostly Lead-Lined Gloves | CH-ANL-142T | CH | IN-M006 | ANL-W | | | |
| Contaminated Lead Debris | ID-EGG-142T | RH | IN-W139 | | | | |
| TRU Heavy Metal Sludge | ID-EGG-291T | RH | IN-W146 | | | | |
| Cemented Sludges/Special Setups | ID-EGG-112T-004 | CH | IN-W157 | RFP | 004 | ID 213 | ID 213 |
| Concrete/Firebrick | ID-EGG-115T-371 | CH | IN-W161 | RFP | 371 | ID 122, 222B | ID 122, 222B |
| Solidified Inorganic Waste | ID-EGG-112T-114 | CH | IN-W166 | RFP | 114 ^a | ID 114 | ID 114 |
| Cemented Sludges/Organics | ID-EGG-112T-112 | CH | IN-W167 | RFP | 112 ^a | ID 112 | ID 112 |
| Combustibles/Dry Paper and Rags | ID-EGG-114T-330 | CH | IN-W169 | RFP | 330 | ID 116, 216C | ID 216C |
| Combustibles/Decon Waste | ID-EGG-114T-120 | CH | IN-W170 | ANL-E | 120 | AE 116A,B ^b | AE 116A,B |
| Combustibles/Research Generated | ID-EGG-114T-110 | CH | IN-W171 | ANL-E | 110 | AE 116A,B ^b | AE 116A,B |
| Combustibles | ID-EGG-114T-010 | CH | IN-W172 | BETTIS | 010 | | |
| Cemented Sludges/High Level Acid | ID-EGG-112T-834 | CH | IN-W174 | MOUND | 834 | | |
| Cemented Sludges/High Level Caustic | ID-EGG-112T-835 | CH | IN-W177 | MOUND | 835 | | |
| Cemented Sludges/High Level Sludge/Cement | ID-EGG-112T-836 | CH | IN-W179 | MOUND | 836 | MD 111A ^b | MD 111A |
| Cemented Sludges/Laundry Sludge | ID-EGG-112T-978 | CH | IN-W181 | RFP | 978 | ID 211A | ID 211A |
| Combustibles | ID-EGG-114T-116 | CH | IN-W186 | RFP | 116 ^a | ID 116 | ID 116 |
| Cemented Sludges/Bldg. 776 Process Sludge | ID-EGG-112T-976 | CH | IN-W188 | RFP | 976 | ID 211A | ID 211A |

| Waste Stream Name/Description | LOCAL ID | RH/CH | WIPP ID | Generator | IDC | TRUCON ^{c,d} | NMVP ^d |
|---|-----------------|-------|---------|------------|------------------|-------------------------------|-------------------|
| Benelex and Plexiglass/Pred. Com. Debris | ID-EGG-109T-464 | CH | IN-W189 | RFP | 464 | ID 221A | ID 221A |
| Combustible/Moist Paper and Rags | ID-EGG-114T-336 | CH | IN-W197 | RFP | 336 | ID 116, 216A | ID 216A |
| Combustibles/Plastics, Teflon, Wash & PVC | ID-EGG-114T-337 | CH | IN-W198 | RFP | 337 | ID 116, 216C | ID 216C |
| Combustibles/Wood | ID-EGG-114T-970 | CH | IN-W202 | RFP | 970 | ID 216A | ID 216A |
| Combustible Equipment Boxes, Floor Sweep. | ID-EGG-114T-826 | CH | IN-W203 | MOUND | 826 | | |
| Combustible Equipment Drums | ID-EGG-114T-827 | CH | IN-W204 | MOUND | 827 | MD 116A ^b | MD 116A |
| Combustibles/Low Sp. Activity Plastics, Paper | ID-EGG-114T-900 | CH | IN-W205 | RFP | 900 | ID 216B | ID 216B |
| Filters, Glass Filters and Fiberglass | ID-EGG-118T-813 | CH | IN-W214 | MOUND | 813 | | |
| Solidified Process Residues | ID-EGG-102T-001 | CH | IN-W216 | RFP | 001 | ID 211A | ID 211A |
| Solidified Process Residues | ID-EGG-102T-111 | CH | IN-W220 | ANL-E, RFP | 111 | ID 111, AE 116A, ^B | ID 111, AE 116A,B |
| Absorbed Aqueous Liquids | ID-EGG-102T-113 | CH | IN-W221 | RFP | 113 ^a | ID 113 | ID 113 |
| Solidified Process Residues | ID-EGG-102T-292 | CH | IN-W222 | RFP | 292 | | ID NYD |
| Benelex and Plexiglass/Pred. Com. Debris | ID-EGG-109T-302 | CH | IN-W225 | RFP | 302 | ID 121, 221A | ID 221A |
| Wastewater Treatment Sludges | ID-EGG-102T-002 | CH | IN-W228 | RFP | 002 | ID 211A | ID 211A |
| Concrete-Brick/Inorganic Solid Waste | ID-EGG-115T-122 | CH | IN-W230 | RFP | 122 ^a | ID 122 | ID 122 |
| Glass Waste Debris | ID-EGG-119T-118 | CH | IN-W240 | RFP | 118 ^a | ID 118 | ID 118 |
| Glass | ID-EGG-119T-440 | CH | IN-W243 | RFP | 440 | ID 118, 218B | ID 218B |
| Unleached Rashig Rings | ID-EGG-119T-441 | CH | IN-W245 | RFP | 441 | ID 125, 225B | ID 225B |
| Leached Rashig Rings | ID-EGG-119T-442 | CH | IN-W247 | RFP | 442 | ID 118, 218A | ID 218A |
| Glass, Flasks, Sample Vials | ID-EGG-119T-810 | CH | IN-W249 | MOUND | 810 | | |
| Leaded Rubber-Glovebox Gloves | ID-EGG-120T-123 | CH | IN-W250 | RFP | 123 ^a | ID 123 | ID 123 |
| Leaded Rubber Gloves and Aprons | ID-EGG-120T-339 | CH | IN-W252 | RFP | 339 | ID 123, 223A | ID 223A |
| Leaded Rubber Gloves and Aprons | ID-EGG-120T-463 | CH | IN-W254 | RFP | 463 | ID 223A | ID 223A |
| Dry Box Gloves and O-Ring | ID-EGG-120T-802 | CH | IN-W256 | MOUND | 802 | | |
| Alpha Hot Cell Waste | ID-EGG-144T-104 | CH | IN-W259 | ANL-E | 104 | | |

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| Waste Stream Name/Description | LOCAL ID | RH/CH | WIPP ID | Generator | IDC | TRUCON ^{c,d} | NMVP ^d |
|---|------------------|-------|-----------|-----------|------------------|-----------------------|-------------------|
| Radioactive Sources: Solid Binary Scrap Powder | ID-EGG-144T-040 | RH/CH | IN-W260 | BETTIS | 040 | | |
| Particulate Waste - Contaminated Soil | ID-EGG-141T-842 | CH | IN-W263 | MOUND | 842 | MD 111B ^b | MD 111B |
| Particulate Waste - Blacktop, Concrete, Dirt & Sand | ID-EGG-141T-374 | CH | IN-W265 | RFP | 374 | ID 121 | ID 121 |
| Particulate Wastes - Laboratory Waste | ID-EGG-141T-150 | CH | IN-W269 | INEL | 150 | | |
| Graphite Molds & Graphites, Contam. Hg | ID-EGG-137T-814 | CH | IN-W271 | MOUND | 814 | | |
| Debris Waste - Coarse Graphite Molds | ID-EGG-137T-312 | CH | IN-W272 | RFP | 312 | ID 115 | ID 115 |
| Debris Waste-Graphite Molds, Crucibl, Core | ID-EGG-137T-301 | CH | IN-W275 | RFP | 301 | | |
| Debris Waste - Graphite Molds & Crucibles | ID-EGG-137T-300 | CH | IN-W276 | RFP | 300 | ID 115, 215A | ID 215A |
| Metal Debris - Metal, Equip., pipes, valves | ID-EGG-132T-803 | CH | IN-W280 | MOUND | 803 | | |
| Het. Debris-Noncombustible Equip. Boxes | ID-EGG-134T-824 | CH | IN-W281 | MOUND | 824 | MD 117A ^b | MD 117A |
| Het. Debris-Americium Process Residue | ID-EGG-134T-241 | CH | IN-W283 | RFP | 241 | ID 125, 225A | ID 225A |
| Heterogeneous Debris | ID-EGG-134T-201 | CH | IN-W285 | BATTELLE | 201 | | |
| Metal Debris-Misc., Cut-up Glovebox | ID-EGG-134T-101 | CH | IN-W287 | ANL-E | 101 | | |
| Miscellaneous Solids | ID-EGG-134T-121 | CH | IN-W289 | ANL-E | 121 | AE-116A ^b | AE-116A |
| Debris Waste - Miscellaneous | ID-EGG-134T-100 | CH | IN-W291 | ANL-E | 100 | | |
| Metal Debris - Leached Non Special Source | ID-EGG-132T-481 | CH | IN-W294 | RFP | 481 | ID 217C | ID 217C |
| Metal Debris- Non Special Source | ID-EGG-132T-480 | CH | IN-W296 | RFP | 480 | ID 117, 217C | ID 217C |
| Metal Debris - Tantalum | ID-EGG-132T-320 | CH | IN-W298 | RFP | 320 | ID 117, 217B | ID 217B |
| Metal Debris Waste | ID-EGG-132T-117 | CH | IN-W300 | RFP | 117 ^a | ID 117 | ID 117 |
| Unknown Solids, Noncompressible | ID-EGG-132T-020 | CH | IN-W302 | BETTIS | 020 | | |
| Equipment | ID-EGG-134TN-825 | CH | IN-W304 | MOUND | 825 | | |
| Plastic, Manipulator Boots, etc. | ID-EGG-114TN-804 | CH | IN-W305 | MOUND | 804 | | |
| Uncategorized - Pre 73 Drums | ID-EGG-287T-9999 | CH | IN-W306.1 | RFP | | | |
| Uncategorized - Pre 73 Drums | ID-EGG-287T-9999 | CH | IN-W306.2 | RFP | | | |
| Uncategorized - Pre 73 Drums | ID-EGG-287T-9999 | CH | IN-W306.3 | RFP | | | |

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| Waste Stream Name/Description | LOCAL ID | RH/CH | WIPP ID | Generator | IDC | TRUCON ^{c,d} | NMVP ^d |
|---|------------------|-------|-----------|------------|------------------|-----------------------|-------------------|
| Uncategorized - Pre 73 Drums | ID-EGG-287T-9999 | CH | IN-W306.4 | RFP | | | |
| Unknown Solids | ID-EGG-287T-000 | CH | IN-W308 | INEL/RFP | 000 | | |
| Organic Setups | ID-EGG-158T-003 | CH | IN-W309 | RFP | 003 | ID 212 | ID 212A |
| Salts: Molten Salts - 30% Unpulverized | ID-EGG-146T-409 | CH | IN-W311 | RFP | 409 | | |
| Salts: Pyrochemical Salt Waste | ID-EGG-146T-124 | CH | IN-W312 | RFP | 124 ^a | ID 124 | ID 124 |
| Salts: Direct Oxide Reduction Salt | ID-EGG-146T-414 | CH | IN-W314 | RFP | 414 | | |
| Resins: Leached and Cemented Resins | ID-EGG-145T-432 | CH | IN-W317 | RFP | 432 | ID 226A | ID 226A |
| Actinide Neutron Sources, Exp'tal Fuel Capsules | ID-EGG-144TN-154 | RH | IN-W322 | INEL | 154 | | |
| Combustible Lab Waste | ID-EGG-144T-153 | RH | IN-W323 | INEL | 153 | | |
| Unk. Classified Parts | ID-EGG-288T-815 | CH | IN-W325 | MOUND | 815 | | |
| Unk. Low Specific Activity Waste <100nCi/g Comb | ID-EGG-288T-847 | CH | IN-W327 | MOUND | 847 | | |
| Unk. Low Specific Activity Waste <100nCi/g Comb | ID-EGG-288T-848 | CH | IN-W329 | MOUND | 848 | | |
| Unk. Plastic, Tygon, Manipulator Boots | ID-EGG-288T-801 | CH | IN-W330 | MOUND | 801 | | |
| Unk. Solidified Solutions | ID-EGG-288T-204 | CH | IN-W332 | BATTELLE | 204 | | |
| Unk. Debris Paper, Metal, Glass | ID-EGG-288T-203 | CH | IN-W334 | BATTELLE | 203 | | |
| Unk. Combustible Solids/Debris | ID-EGG-288T-202 | CH | IN-W336 | BATTELLE | 202 | | |
| Unk. Americium Solids | ID-EGG-288T-200 | RH | IN-W337 | INEL | 200 | | |
| Unk. ANL-W Anal. Chem. Lab. Misc. Liquids | ID-EGG-288T-163 | CH | IN-W338 | ANL-W | 163 | | |
| Unk. ANL-W Anal. Chem. Lab. Misc. Solids | ID-EGG-288T-162 | CH | IN-W339 | INEL/ANL-w | 162 | | |
| Unk. ANL-WHFEF Analytical Chem. & Met. Combust. | ID-EGG-288T-160 | CH | IN-W341 | INEL | 160 | | |
| Unknown Miscellaneous Sources | ID-EGG-288T-157 | CH | IN-W342 | INEL | 157 | | |
| Unknown TRU Scrap | ID-EGG-288T-155 | CH | IN-W345 | INEL | 155 | | |
| Unknown Absorbed Liquids | ID-EGG-288T-102 | CH | IN-W347 | ANL-E | 102 | | |
| Unknown RH-TRU Waste | ID-EGG-288T-107 | RH | IN-W349 | ANL-E | 107 | | |

| Waste Stream Name/Description | LOCAL ID | RH/CH | WIPP ID | Generator | IDC | TRUCON ^{c,d} | NMVP ^d |
|---|------------------|-------|---------|-----------|------------------|-----------------------|-------------------|
| Unknown Special Source Material | ID-EGG-288T-106 | CH | IN-W350 | ANL-E | 106 | | |
| Unknown Empty Bottles | ID-EGG-288T-105 | CH | IN-W351 | ANL-E | 105 | | |
| Solidified Solutions | ID-EGG-158TN-050 | CH | IN-W353 | BETTIS | 050 | | |
| Salts: Gibson Salts | ID-EGG-146TN-412 | CH | IN-W354 | RFP | 412 | ID 224A | ID 224A |
| Salts: Electrorefining Salts | ID-EGG-146TN-411 | CH | IN-W355 | RFP | 411 | ID 124, 224A | ID 124, 224A |
| Salts: Molten Salts - 30% Pulverized | ID-EGG-146TN-410 | CH | IN-W356 | RFP | 410 | ID 224A | ID 224A |
| Radioactive Sources: Pu Neutron Sources | ID-EGG-144TN-152 | RH | IN-W358 | INEL | 152 | | |
| Radioactive Sources: Neutron Sources | ID-EGG-144TN-015 | RH | IN-W359 | | 015 | | |
| Radioactive Sources: Misc. Sources | ID-EGG-144TN-012 | RH | IN-W360 | BETTIS | 012 | | |
| Non-metal Molds-LECO Crucible | ID-EGG-137TN-370 | CH | IN-W366 | RFP | 370 | ID 118, 222A | ID 118, 222A |
| Graphite Scarfed Chunks - Molds & Crucibles | ID-EGG-137TN-303 | CH | IN-W369 | RFP | 303 | ID 115 | ID 115 |
| Graphite Molds & Crucibles | ID-EGG-137TN-115 | CH | IN-W370 | RFP | 115 ^a | ID 115 | ID 115 |
| Metal Debris - Zinc, Mg Alloy Metal | ID-EGG-132TN-416 | CH | IN-W371 | RFP | 416 | ID 217A | ID 217A |
| Metals-Unknown, Met Samples Fissile | ID-EGG-132TN-081 | RH | IN-W372 | BETTIS | 801 | | |
| Concrete/Brick, Asphalt | ID-EGG-115TN-960 | CH | IN-W374 | RFP | 960 | | |

FOOTNOTES

- After 1985 RFP shipped waste to INEL used content code numbers similar to those presented in the TRUCON document instead of the IDCs used before and following this time. For example, content code 118 (ID-EGG-119T-118) consists of IDCs 370, 440, and 442.
- These are TRUCON-equivalent codes. These codes are presently approved transport in the TRUPACT-II package from their respective generators to WIPP (i.e., MD-111 can be shipped from Mound to WIPP). A revision to TRUCON will be prepared to allow transport of these codes from INEL to WIPP.
- The "A" and "B" trailers on some of the content codes are used in TRUCON to identify wastes within a content code that differ in one or more parameter(s), such as waste packaging, or segregation of one or more IDCs. The ID 1XX codes do not include the letter code, as all of these are assumed to be the ID 1XXA codes.
- A blank entry under TRUCON and/or NMVP denotes that the corresponding wastes were not included in these documents and do not have a correlating content code. Revision 6, TRUCON and the 3/9/90 issue of the NMVP were used to determine the correlation.

LANL WASTE STREAM IDENTIFICATION CROSS-CORRELATION TABLE

| Waste Stream Name/Description ^a | LOCAL ID | WIPP ID | RH-CH | IDC ^b | TRUCON ^{b,c} | NMVP ^{b,c} |
|---|--------------------|--------------------|----------|------------------|-----------------------|---------------------|
| Mixed Metal Scrap & Incidental Combustibles | LA-T001 | LA-T001 | CH | 001 | LA 125A | LA 125A |
| Combustible Waste | LA-T004 | LA-T004 | CH | 004 | LA 116A | LA 116A |
| Non-combustible scrap | LA-T005 | LA-T005 | CH | 005 LM 005 LG | LA 117A LA 118A | LA 117A LA 118A |
| Cemented Process Residues, <i>Solidified Inorganic Process Solids</i> | LA-T006 | LA-T006 | CH | 006 | LA 114A | LA 114A |
| Non-combustible hot-cell waste | LA-T007 | LA-T007 | CH | | | |
| Contaminated Soil | LA-T008 | LA-T008 | CH | | | |
| Glovebox and equipment metal in boxes | LA-T009 | LA-T009 | CH | | | |
| Combustible Waste, including rubber | LA-TR04 | LA-TR04 | RH | | | |
| Non-combustible scrap | LA-TR05 LA-T015 | LA-TR05 | RH RH | | | |
| Non-combustible hot-cell waste | LA-TR07 LA-T017 | LA-TR07 | RH RH | | | |
| Mixed Metal Scrap and Incidental Combustibles | LA-WR01 LA-W011 | LA-WR01 LA-W011 | RH RH | | | |
| Non-combustible Scrap | LA-WR05 LA-W015 | LA-WR05 | RH RH | | | |
| Mixed Metal Scrap and Incidental Combustibles | LA-W001 | LA-W001 | CH | 001 | LA 125A | LA 125A |
| Solidified Aqueous Waste, Cemented Sludge, <i>Concreted Aqueous Waste</i> | LA-W002 | LA-W002 | CH | 002 | LA 111A LA 211 A | LA 111A LA 211A |
| Solidified Inorganics, Dewatered Sludge | LA-W003 | LA-W003 | CH | 003 | LA 111B LA 211B | LA 111B LA 211B |

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| Waste Stream Name/Description ^a | LOCAL ID | WIPP ID | RH-CH | IDC ^b | TRUCON ^{b,c} | NMVP ^{b,c} |
|---|----------|---------|-------|------------------|-----------------------|---------------------|
| Combustible Waste, including rubber | LA-W004 | LA-W004 | CH | 004 | LA 116A | LA 116A |
| Non-combustible Scrap | LA-W005 | LA-005 | CH | 005 LM 006 LG | LA 117A LA 118A | LA 117A LA 118A |
| Cemented Process Residues, <i>Solidified Inorganic Process Solids</i> | LA-W006 | LA-W006 | CH | 006 | LA 114A | LA 114A |
| Glovebox & Equipmental Metal Waste | LA-W009 | LA-W009 | CH | | | |

Footnotes:

- a - The waste stream description name is from the WTWBIR waste stream profiles. The names in italic represent the name of the stream in the TRUCON and/or NMVP if different than the WTWBIR name.
- b - The correlation of the WIPP# to IDCs, TRUCON codes, and NMVP identifiers has been deduced from waste stream names and material parameter information. There is not a one-to-one correlation between these codes, and the waste stream by WIPP# may include one or more waste streams as identified in the TRUCON and/or NMVP. The TRUCON and NMVP correlations codes listed may not be inclusive of all TRUCON and NMVP codes in that WIPP#, however, those listed are the only codes that could be determined from the available information.
- c - There is no TRUCON or NMVP correlation for the RH wastes.

LLNL WASTE STREAM IDENTIFICATION CROSS-CORRELATION TABLE

| Waste Stream Name/Description ^a | LOCAL ID | WIPP ID | RH/CH | TRUCON ^b | NMVP ^b |
|--|------------------|---------|-------|---------------------|---------------------|
| R&D Glovebox Waste (Form 1) | Form 1 Mixed | LL-M001 | CH | LL 116 | LL 116 |
| Solidified Waste (Form 2) | Form 2 Non-mixed | LL-T001 | CH | LL 111 ^c | LL 111 ^c |
| R&D Glovebox Waste (Form 1) | Form 1 Non-Mixed | LL-T002 | CH | LL 116 | LL 116 |
| Combined metal scrap & incidental combustible (Form 3) | Form 3 Non-Mixed | LL-T003 | CH | LL 125 | LL 125 |
| Pyrochemical Salt Waste (Form 4) | Form 4 Non-Mixed | LL-T004 | CH | LL 124 | LL 124 |
| HEPA Filters (Form 5) | Form 5 Non-Mixed | LL-T005 | CH | | |
| Combined metal scrap & incidental combustible (Form 3) | Form 3 Mixed | LL-W018 | CH | LL 125 | LL 125 |
| Solidified Waste (Form 2) | Form 2 Mixed | LL-W019 | CH | LL 111 ^c | LL 111 ^c |

Footnotes:

- a - Blank fields indicate that no waste stream name was reported in the waste stream profiles.
- b - Item Description Codes (IDCs) as defined in the TRUCON were not reported in the waste stream profiles. Cross-correlation with TRUCON and NMVP content codes were assigned based on matching physical descriptions provided. The content codes listed do not represent a one-to-one correlation with the WIPP waste streams. Blank fields indicate that no correlating content code could be assigned.
- c - The content code listed is only a subset of the WIPP waste stream. Correlating content codes are not listed in TRUCON or the NMVP for the remainder of the WIPP waste stream.

MOUND WASTE STREAM IDENTIFICATION CROSS-CORRELATION TABLE

| Waste Stream Name/Description | LOCAL ID | WIPP ID | RH/ CH | TRUCON ^a | NMVP ^a |
|---|------------|---------|--------|---------------------|-------------------|
| Asbestos Debris | MD-805 | MD-M001 | CH | | |
| Inorganic Process Residues | MD-836 | MD-T001 | CH | MD 111A | MD 111A |
| Plastic/Rubber Debris | MD-827 | MD-T002 | CH | MD 116A | MD 116A |
| Contaminated Soil | MD-842 | MD-T003 | CH | MD 111B | MD 111B |
| Uncategorized Unknowns | MD-826 | MD-T004 | CH | | |
| Contaminated soils w/ debris | MD-842 | MD-T005 | CH | MD 111B | MD 111B |
| Metal debris w/o lead or cadmium | MD-824 | MD-T006 | CH | MD 117A | MD 117A |
| Uncategorized metal debris | MD-825 | MD-T007 | CH | | |
| Uncategorized Plastic and Rubber Debris | MD-804 | MD-T008 | CH | | |
| Uncategorized Combustible Debris | MD-801+804 | MD-T009 | CH | | |
| Uncategorized Composite Filters | MD-825 | MD-T010 | CH | | |
| Predominantly Metal Debris | MD-824 | MD-T011 | CH | MD 117A | MD 117A |
| Uncategorized Heterogenous Debris | MD-825 | MD-T012 | CH | | |
| Leaded gloves/aprons | | MD-T013 | CH | | |
| Absorbed Aqueous Liquids | MD-833 | MD-W002 | CH | | |

Footnotes:

- a - Correlating TRUCON and NMVP content codes were assigned by matching the Local ID (Column 2) to the Item Description Codes (IDCs) listed in the TRUCON and NMVP documents. Blank fields indicate that no correlating content code exists.

NTS WASTE STREAM IDENTIFICATION CROSS-CORRELATION TABLE

| Waste Stream Name/Description | LOCAL ID | WIPP ID | TRUCON ^a | NMVP ^a |
|------------------------------------|----------|---------|--------------------------------------|--------------------------------------|
| Heterogenous Debris, Uncategorized | LL-002 | NT-W001 | NT 111 NT 116 NT 211 NT 225 | NT 111 NT 116 NT 211 NT 225 |

Footnotes:

- a - This waste stream has been correlated to the TRUCON and NMVP content codes based on physical description in the waste stream profile.
WIPP stream # NT-W001 includes all of the content codes listed, and may contain other waste streams not listed in TRUCON or the NMVP.

ORNL WASTE STREAM IDENTIFICATION CROSS-CORRELATION TABLE

| Waste Stream Name/Description | LOCAL ID | WIPP ID | RH/CH | TRUCON ^{a,b} | NMVP ^{a,b} |
|---|----------|---------|-------|-----------------------|---------------------|
| RH TRU Heterogenous Debris | 2039 | OR-W040 | RH | | |
| Inactive Storage Tank contents - MTRU Sludge | 2041 | OR-W042 | CH | | |
| CH TRU Heterogenous Debris | 2043 | OR-W044 | CH | OR 125A OR 125B | OR 125A OR 125B |
| CH TRU Uncategorized | 2044 | OR-W045 | CH | | |
| Liquid Low Level Waste Storage Tanks - Sludge | 2045 | OR-W046 | RH | | |
| CH TRU Heterogenous Debris (w/liquids) | 2046 | OR-W047 | CH | | |

Footnotes:

- a - RH waste streams are not listed in the TRUCON and NMVP.
- b - Item Description Codes (IDCs) were not reported in the waste stream profiles. Cross-correlation with TRUCON and NMVP content codes were assigned based on matching physical descriptions. This is not a one-to-one correlation between TRUCON or NMVP content codes and WIPP numbers.

RFP WASTE STREAM IDENTIFICATION CROSS-CORRELATION TABLE

| Waste Stream Name/Description ^a | LOCAL ID | WIPP ID | IDC ^b | TRUCON _b | NMVP _b |
|---|-----------------|---------|---|---------------------|-------------------|
| Cemented Sludge/Solidified Inorganic Sludge | 823 | RF-T001 | 823 ^d | | |
| Solidified Process Solids/TRM | RF-806 | RF-M001 | 806 | RF 114 | RF 114 |
| Supercompacted Combustibles/TRM | RF-2116 | RF-M002 | 2116 ^e | RF 116C | |
| Combustible Debris | 821, 822, 825 | RF-T002 | 330, 336, 337, 821, 822 ^d , 825 | | |
| Ground Glass | 444 | RF-T003 | 444 | RF 118 | RF 118 |
| Misc. Pu Recovery By-Product/TRU/Salts | 411,412,414,409 | RF-T004 | 409 ^d , 411, 412 ^d , 414 ^d | RF 124 | RF 124 |
| Particulate Sludge/TRU/Solidified Inorganic Waste/ Final waste form is RF-T06 | 292,299,372 | RF-T005 | 292, 299, 372 | | |
| Solidified Process Solids/TRU/Final form for Particulate Sludges after Treatment | 806 | RF-T006 | 806 | RF 114 | RF 114 |
| Supercompacted Combustibles/TRU | 2216 | RF-T007 | 2216 | | |
| Soil & Cleanup Debris/TRM/Blacktop, concrete, dirt, etc. | RF-374 | RF-W008 | 374 | RF 121 | RF 121 |
| Aqueous Sludge/Solidified Process Residues | 800, 803, 807 | RF-T010 | 800, 803, 807 | RF 111 | RF 111 |
| Aqueous Sludge/TRM | RF-800,803,807 | RF-W010 | 800, 803, 807 | RF 111 | RF 111 |
| Metal Debris | 480 | RF-T011 | 480, 484, 485, 486, 489, 481 ^d | RF 117 | RF 117 |
| Metal/TRM | RF-480 | RF-W011 | 480, 481 | RF 117 | RF 117 |
| Combustibles/TRM | RF-831,832,833 | RF-W012 | 330, 336, 337, 831, 832, 833 | RF 116 | RF 116 |
| Solidified Organics/TRM | RF-801 | RF-W013 | 801 | RF 112 | RF 112 |
| Used Absorbents/TRM/Absorbed Organic Liquids | RF-375 | RF-W026 | 375 | RF 122 | RF 122 |
| Lead/TRM | RF-321 | RF-W028 | 321 | RF 117 | RF 117 |
| Leaded Gloves/Apron TRM | RF-339 | RF-W029 | 339 | RF 123 | RF 123 |
| Ground Glass/TRM | RF-444 | RF-W032 | 444 | RF 118 | RF 118 |

| Waste Stream Name/Description ^a | LOCAL ID | WIPP ID | IDC ^b | TRUCON _b | NMVP _b |
|--|-----------------|---------|---|---------------------|-------------------|
| Firebrick, Pulverized or Fines/TRU | 377 | RF-T036 | 377, 378 | RF 122 | RF 122 |
| Firebrick, Pulverized or Fines/TRM | RF-377 | RF-W036 | 377, 378 | RF 122 | RF 122 |
| Heavy Metal (non-SS)/TRU | RF-320 | RF-W037 | 320 | RF 117 | RF 117 |
| Heavy Metal (non-SS) | 320 | RF-T037 | 320 | RF 117 | RF 117 |
| Solidified Lab Waste | 802 | RF-T038 | 802 | RF 113 | RF 113 |
| Solidified Lab Waste/TRM | RF-802 | RF-W038 | 802 | RF 113 | RF 113 |
| Incinerator Ash/TRM (<i>Final form is solidified process solids</i>) | Not Reported | RF-W040 | 419,420, 421, 425, 428 | | |
| Leaded Gloves-Acid Contaminated/TRM | RF-341 | RF-W041 | 341 | | |
| Glass/TRM | 440,442,442,856 | RF-W052 | 440, 441, 442, 856 ^c | RF 118 | RF 118 |
| Glass Debris | 440,441,442,856 | RF-T052 | 440, 441, 442, 856 ^c | RF 118 | RF 118 |
| Mg Oxide Crucibles/TRU/Ceramic/Brick Debris | 368,370 | RF-T056 | 368, 370, 655 | RF 118 | RF 118 |
| Mg Oxide Crucibles/TRM/Ceramic/Brick Debris | RF-370,368,655 | RF-W056 | 370, 368, 655 | RF 118 | RF 118 |
| Insulation/TRM | RF-438 | RF-W057 | 438 | RF 122 | RF 122 |
| <i>Insulation/Same as RF-W057</i> | | RF-W057 | 438 | RF 122 | RF 122 |
| Insulation/TRU | 438 | RF-T057 | 438 | | |
| Misc. Pu Recovery Byproducts/TRM/Salt Waste | RF-411 | RF-W058 | 365, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 418, 427, 429, 433, 434, 435, 473, 654 | RF 124 | RF 124 |
| Sand, Slag & Crucibles/TRM | 392,398 | RF-T059 | 392, 398 | | |
| Sand, Slag, and Crucible/TRM/ <i>Final waste from is solidified process solids (RF-M01).</i> | 391 | RF-W059 | 387, 390, 395, 396, 391, 392, 393, 394, 399 | | |
| Coarse Graphite/TRM | RF-303,312 | RF-W060 | 303, 312 | RF 115 | RF 115 |
| Coarse Debris | 303,312 | RF-T060 | 303, 312 | RF 115 | RF 115 |
| Miscellaneous Liquids/TRM | 070,400,401 | RF-W063 | 070, 400, 401, 500, 503, 508, 527, 541 | | |

| Waste Stream Name/Description ^a | LOCAL ID | WIPP ID | IDC ^b | TRUCON _b | NMVP _b |
|--|-----------------|---------|--|---------------------|-------------------|
| Miscellaneous Liquids/TRU | 070,400,401,501 | RF-T063 | | | |
| Calcium metal/TRM | RF-333 | RF-W065 | 333 | | |
| Filters and Media/TRU | 335,342,490,491 | RF-T066 | 335, 342, 490, 491, 321, 331, 376, 492 | RF 119 | RF 119 |
| Filters & Media/TRM | RF-490 | RF-W066 | 328, 331, 335, 342, 376, 490, 491, 492 | RF 119 | RF 119 |
| Cemented Filters/TRU | 376 | RF-T067 | 376, 338 | RF 119 | RF 119 |
| Cemented Filters/TRM | RF-376 | RF-W067 | 376, 338 | RF 119 | RF 119 |
| Particulate Sludge/TRM/ <i>Final waste form is solidified process solids (RF-M01).</i> | 292 | RF-W068 | 292, 299, 372, 823 | | |
| Organic Resins/TRM | 430,431,809 | RF-W069 | 430, 431, 809 | RF 126 | RF 126 |
| Organic Resins | 809 | RF-T069 | 430, 431, 809 | RF 126 | RF 126 |
| Process Residues/TRM | 289,292,299 | RF-W076 | 289, 292, 299, 340, 372, 422, 423 | | |
| <i>Solidified Inorganic Waste</i> | 044,080,092 | RF-T076 | 044,080,192 | | |

Footnotes:

- a - *Italic Text* denotes waste stream descriptions obtained from the waste stream profile used to clarify the type of waste being described.
- b - **Bold Text** denotes IDCs that are noted as Final Waste Form #'s by the RFP.
- c - Correlating TRUCON and NMVP content codes are assigned based on the final waste form numbers (bolded IDCs). Blank fields indicate that no correlating content code exists for the waste stream.
- d - These IDCs are listed as INEL TRUCON codes (generated by RFP), but are not included as RFP TRUCON content codes. Therefore, no correlation exists.
- e - Supercompacted combustibles are listed in TRUCON under RF 116C, but under older IDCs 831, 832, 833.

APPENDIX G

**APPENDIX G
MWIR CODE DESIGNATIONS AND DESCRIPTIONS**

| Code | Description | Code | Description |
|-------------|---|-------------|---|
| D001A | High TOC Ignitable Liquids | F001-F005 | Pharmaceutical Industry Wastewaters |
| D001B | Descr. Based on 40 CFR 261.21, High TOC Subcat., Managed CWA | F005A | Spent Nonhalogenated Solvents |
| D001C | Descr. Based on 40 CFR 261.21, High TOC Subcat., Non-CWA | F005B | Listed for 2-Nitropropane |
| D002A | Acid, Alkaline, & Other Subcat Based on 40 CFR 261.22 CWA | F005C | Listed for 2-Ethoxyethanol |
| D002B | Acid, Alkaline, & Other Subcat Based on 40 CFR 261.22 Non-CWA | F025A | Light Ends |
| D002C | High Level Wastes | F025B | Spent Filters/Aids and Desiccants |
| D003A | Reactive Cyanides | K006A | Anhydrous |
| D003B | Reactive Sulfides | K006B | Hydrated |
| D003C | Explosives | K061A | High Zinc |
| D003D | Water Reactives | K061B | Low Zinc |
| D003E | Other Reactives | K069A | Calcium Sulfate |
| D004A | TCLP Toxic for Arsenic | K069B | Non Calcium Sulfate |
| D004B | High Level Wastes | K071A | Low Mercury |
| D005A | TCLP Toxic for Barium | K071B | High Mercury |
| D005B | High Level Wastes | K106A | Low Mercury |
| D006A | TCLP Toxic for Cadmium | K106B | High Mercury |
| D006B | Cadmium-containing Batteries | K106C | High Mercury Residues from RMERC |
| D006C | High Level Wastes | K106D | Low Mercury Residues from RMERC |
| D007A | TCLP Toxic for Chromium | K106E | Low Mercury Residues |
| D007B | High Level Wastes | K106F | Wastewaters |
| D008A | TCLP Toxic for Lead | P065A | High Mercury Incinerator or RMERC Residues Containing Mercury |
| D008B | Lead Acid Batteries | P065B | Residues That Are Not Incinerator or RMERC Residues |

APPENDIX G
MWIR CODE DESIGNATIONS AND DESCRIPTIONS (continued)

| Code | Description | Code | Description |
|-------------|--|-------------|--|
| D008C | Radioactive Lead Solids | P065C | Low Mercury RMERC Residues Containing Mercury Fulminate |
| D008D | High Level Wastes | P065D | Incinerator Residues Containing Mercury Fulminate |
| D009A | TCLP Toxic for Mercury | P065E | Wastewaters |
| D009B | High Mercury (Contains Organics) | P092A | High Mercury Incinerator or RMERC Residues Containing Phenyl Mercury Acetate |
| D009C | High Mercury (Contains Inorganics) | P092B | Residues That Are Not Incinerator or RMERC Residues |
| D009D | Elemental Mercury Contaminated with Radioactive Materials | P092C | Low Mercury RMERC Residues Containing Phenyl Mercury Acetate |
| D009E | Hydraulic Oil Contaminated with Mercury Radioactive Material | P092D | Incinerator Residues Containing Phenyl Mercury Acetate |
| D009F | High Level Wastes | P092E | Wastewaters |
| D010A | TCLP Toxic for Selenium | U151A | High Mercury Residues from RMERC |
| D010B | High Level Wastes | U151B | Low Mercury Residues from RMERC |
| D011A | TCLP Toxic for Silver | U151C | Low Mercury Residues |
| D011B | High Level Wastes | U151D | Radioactive Elemental Mercury |

APPENDIX H

APPENDIX H

Isotopic Mixes for INEL

| Pu-52 Isotopic Mix for INEL | | PU-83 Isotopic Mix for INEL | |
|-----------------------------|-----------------|-----------------------------|-------------------|
| Radionculide | Mass Fraction | Radionculide | Mass Fraction |
| ²³⁸ Pu | 1.2 E-04 | ²³⁶ Pu | 10 ⁻⁰⁶ |
| ²³⁹ Pu | 9.3826 E-01 | ²³⁸ Pu | 8.35 E-01 |
| ²⁴⁰ Pu | 5.82 E-02 | ²³⁹ Pu | 1.4 E-01 |
| ²⁴¹ Pu | 3.4 E-04 | ²⁴⁰ Pu | 2.0 E-02 |
| ²⁴¹ Pu | 2.4 E-04 | ²⁴¹ Pu | 4.0 E-03 |
| ²⁴¹ Am impurity | 200 µg/g W G Pu | ²⁴² Pu | 1.0 E-03 |

LOS ALAMOS NATIONAL LABORATORY WASTE MATERIAL TYPE CODES

The Los Alamos National laboratory (LANL) uses a set of codes to specify special mixtures of special materials in waste matrices where appropriate. In the listing that follows, the codes appear on the left and the column on the right contains the specifics of the mixture. Subheadings provide additional general information where thought to be helpful to the reader.

Isotopic Mixes for LANL

| Type Code | Type-Description |
|----------------------------|-----------------------|
| Uranium - depleted in U235 | |
| U10 | Total |
| U11 | <0.21% U235 |
| U12 | 0.21 to 0.24% U235 |
| U13 | >0.24 to <0.26% U235 |
| U14 | 0.26 to <0.28% U235 |
| U15 | 0.28 to <0.31% U235 |
| U16 | 0.31 to <0.50% U235 |
| U17 | 0.50 to <0.60% U235 |
| U18 | 0.60 to <0.711% U235 |
| Uranium - enriched in U235 | |
| U20 | Total |
| U21 | >0.711 to <0.90% U235 |
| U22 | 0.90 to <1.15% U235 |
| U23 | 1.15 to <1.60% U235 |

| Type Code | Type Description |
|------------------------|----------------------|
| U24 | 1.60 to <2.00% U235 |
| U25 | 2.00 to <2.60% U235 |
| U26 | 2.60 to <2.90% U235 |
| U27 | 2.90 to <3.10% U235 |
| U28 | 3.10 to <3.40% U235 |
| U29 | 3.40 to <3.90% U235 |
| U30 | 3.90 to <4.10% U235 |
| U31 | 4.10 to <5.00% U235 |
| U32 | 5.00 to <10.0% U235 |
| U33 | 10.0 to <20.0% U235 |
| U34 | 20.0 to <35.0% U235 |
| U35 | 35.0 to <45.0% U235 |
| U36 | 45.0 to <80.0% U235 |
| U37 | 80.0 to <92.0% U235 |
| U38 | 92.0 to <94.0% U235 |
| U39 | 94.0% and above U235 |
| Plutonium - 242 | |
| Pu40 | Total |
| Pu41 | 20 to 60% |
| Pu42 | > 60% |
| Pu43 | Americium 241 |
| Pu44 | Americium 243 |
| Pu45 | Curium 246 |
| Pu46 | Berkelium 249 |
| Pu48 | Californium 252 |
| Plutonium - 239 | |
| Pu50 | Total |
| Pu51 | <4.00% Pu240 |
| Pu52 | 4.00 to <7.00% Pu240 |
| Pu53 | 7.00 to <10.0% Pu240 |

| Type Code | Type Description |
|-----------------------------------|--------------------------------------|
| Pu54 | 10.0 to <13.0% Pu240 |
| Pu55 | 13.0 to <16.0% Pu240 |
| Pu56 | 20.0 to <20.0% Pu240 |
| Pu57 | 20.0% and above Pu240 |
| Uranium - enriched in U233 | |
| U70 | Total |
| U71 | < 5 ppm U232 |
| U72 | 5 to <50 ppm U232 |
| U73 | 50 ppm and above U232 |
| U81 | Normal Uranium - Total (0.711% U235) |
| U82 | Nuptunium 237 - Total |
| U83 | Plutonium 238 - Total |
| U88 | Thorium - Total |

APPENDIX I

OAK RIDGE NATIONAL LABORATORY
MANAGED BY MARTIN MARIETTA ENERGY SYSTEMS, INC.
FOR THE U.S. DEPARTMENT OF ENERGY

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December 22, 1994

Distribution

**Final Review (Sign-Off) of Transuranic Waste Section (Chapter 3)
of the Integrated Data Base Report (DOE/RW-0006, Rev. 10)**

Attached is the final update of this section based on DOE site information received. Please convey to either Royes Salmon or me any final comments you may have on this section no later than Friday, December 30, 1994. Royes' phone number is 615/574-6607. Your cooperation and assistance are appreciated.

Steve Storch

Stephen N. Storch
Integrated Data Base Program

SNS:db

Attachment

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3. TRANSURANIC WASTE

3.1 INTRODUCTION

This chapter presents information on the inventories and characteristics of transuranic waste (TRUW) at various sites in the United States. TRUW is a waste category peculiar to DOE; it does not apply to wastes regulated by the NRC. DOE Order 5820.2A defines TRUW as waste that (1) is contaminated with alpha-emitting transuranium (i.e., atomic numbers greater than 92) radionuclides with half-lives greater than 20 years and (2) contains a total concentration of such radionuclides in excess of 100 nCi per gram of waste at the time of assay.¹

Under an earlier definition, DOE wastes containing more than 10 nCi of TRU radionuclides per gram of waste were classified as TRUW. The change to 100 nCi of TRU radionuclides per gram of waste took place in 1984. As a result of this change, some waste that had already been classified as TRUW became potentially reclassifiable as low-level waste (LLW). Some of this waste has been so reclassified, and some is still managed as TRUW with the potential of being reclassified as LLW at some future time.

DOE Order 5820.2A also states that heads of field elements can determine that other alpha-contaminated waste peculiar to a specific site must be managed as TRUW.¹ As a consequence of this provision, wastes containing radionuclides such as ²³⁵U, ²⁴¹Pu, and ²⁴⁴Cm, which do not meet the strict definition of TRU radionuclides because of atomic number or half-life, may be classified as TRUW at some sites.

TRUW is primarily generated by research and development activities, plutonium recovery, weapons manufacturing, environmental restoration, and decontamination and decommissioning (D&D) projects. Most TRUW exists in solid form (e.g., items such as protective clothing, paper trash, rags, glass, miscellaneous tools, and equipment that have become contaminated with TRU radionuclides). Some TRUWs are in liquid form (sludges) resulting from chemical processing for recovery of plutonium or other TRU elements. Prior to 1970, TRUW was disposed of on-site in shallow, landfill-type configurations. TRUW disposed of in this manner is referred to as "buried" TRUW. In 1970, the U.S. Atomic Energy Commission (AEC), which was a predecessor to DOE, concluded that waste containing long-lived alpha-emitting radionuclides should have greater confinement from the environment. Thus, all TRUW generated since the early 1970s has been segregated from other waste types and placed in retrievable storage pending shipment and final disposal in a permanent geologic repository.² This waste is referred to as "retrievably stored" TRUW.

Retrievably stored waste is contained in a variety of packagings (metal drums, wooden and metal boxes) and is stored in earth-mounded berms, concrete culverts, or other types of facilities.

TRUW packages are classified as either "contact handled" (CH) or "remote handled" (RH) depending on the radiation level at the surface of the package at the time of packaging. If this level exceeds 200 mrem/h, the package is classified as RH.

CH TRUW contains relatively small quantities of fission and activation products that produce highly penetrating radiation; typically, its emissions consist mostly of alpha particles and low-energy photons of little penetrating power. Most TRUW (more than 90% by volume) is of the CH type. RH TRUW typically contains a greater proportion of fission and activation products that produce highly penetrating radiation and therefore tends to produce a higher level of radiation at the surface of the package.

It is estimated that as much as 50 to 60% of TRUW is mixed waste, meaning that it contains, in addition to radioactive constituents, hazardous constituents defined and regulated in accordance with the Resource Conservation and Recovery Act (RCRA). Examples of mixed waste are radionuclide-contaminated spent solvents, discarded materials contaminated with both solvents and radioactive materials, scintillation fluids, and discarded contaminated lead shielding. Mixed TRUW must be managed to comply with the applicable hazardous waste regulations (e.g., RCRA) as well as those applying to radioactive TRUW only. Some TRUW may be contaminated with hazardous materials defined by other regulations. DOE is currently developing strategies for identifying and managing TRUW containing hazardous contaminants defined by regulations other than RCRA.

Under existing arrangements, retrievably stored TRUW is the responsibility of the DOE/EM Office of Waste Management (EM-30). It is planned that the retrievably stored TRUW and newly generated TRUW from defense-related activities will be shipped to the Waste Isolation Pilot Plant (WIPP) for disposal. Prior to the start of these shipments, it is planned that tests will be conducted over approximately the next 4 years to ensure that the wastes to be shipped to WIPP, and the criteria for their emplacement at WIPP, will meet all applicable federal and state requirements for TRUW and mixed TRUW. If the test phase is successful, the retrievable TRUW inventory will be disposed of in WIPP over approximately the next 20 years.

Buried TRUW and TRUW generated from site remediation activities and D&D activities are the responsibility of the Office of Environmental Restoration (EM-40). The disposition of TRUW in these categories is uncertain at this time.

3.2 TRUW INVENTORIES

3.2.1 Sources of Data

Quantitative information contained in this chapter is derived from data furnished by the DOE sites through annual data calls, as described later in this section. As programs and plans evolve or change, modifications and/or additions will be made to the data and other information in this chapter. It is expected that the quality and accuracy of the data will improve with each annual revision of this document, thus improving the usefulness of the data for program planning and decision purposes.

Early TRUW inventory practices were not as stringent as those of today in regard to requirements for waste identification, categorization, and segregation. Consequently, the early inventory data are based largely on process knowledge and on various studies and summaries related to site-specific practices.³ As these efforts continue and TRUW is further characterized by radioassay, significant revisions in the estimated overall quantities of TRUW are anticipated.

3.2.2 Site Locations—Summarized Volumes and Radioactivity

TRUW management activities (generation, retrievable storage, etc.) are performed at six major and fourteen minor DOE sites. The major sites, from the standpoint of TRUW quantities, are (1) the Hanford Site (HANF), (2) Idaho National Engineering Laboratory (INEL), (3) Los Alamos National Laboratory (LANL), (4) Oak Ridge National Laboratory (ORNL), (5) Rocky Flats Plant (RFP), and (6) the Savannah River Site (SRS). HANF and RFP no longer generate TRUW as part of weapons production processes but do generate TRUW as part of environmental restoration (cleanup) activities. The fourteen minor sites are (1) Ames Laboratory (AMES), (2) Argonne National Laboratory—East (ANL-E), (3) Bettis Atomic Power Laboratory (BAPL), (4) Knolls Atomic Power Laboratory (KAPL), (5) Lawrence Berkeley Laboratory (LBL), (6) Lawrence Livermore National Laboratory (LLNL), (7) Mound Laboratory (MOUND), (8) Nevada Test Site (NTS), (9) Paducah Gaseous Diffusion Plant (PAD), (10) Pantex Plant (PANT), (11) Sandia National Laboratory (SNL/NM), (12) (6) Santa Susana Field Laboratory (SSFL) [also referred to as the Energy Technology Engineering Center (ETEC)], (13) University of Missouri (MURR), and (14) West Valley Demonstration Project (WVDP). Figure 3.1 shows the locations of the sites that store the largest quantities of TRUW and gives an approximate indication of the relative volumes of TRUW stored at each site. Figure 3.2 shows the volumes of CH and RH retrievably stored TRUW at the major sites and clearly shows that the preponderance of TRUW volume is in the CH category. Figure 3.3 shows the decayed radioactivities of retrievably stored CH and RH TRUW at the major sites as of December 31, 1993.

3.2.3 Development of Detailed Inventory Data

Last year's IDB described recent changes in the manner in which TRUW data were collected, reviewed, and used.⁴ This year, the data collection process for the IDB was adjusted somewhat to allow for the priority collection of data for the WIPP Baseline Inventory Report.

3.2.3.1 Site data submittal process

All of the quantitative TRUW data in the IDB are ultimately derived from the site data submittals. The sites supply volumes, radionuclide compositions, and curies of each radionuclide added in each year of TRUW accumulation. This is done for each TRUW type (CH stored, RH stored, CH buried, and RH buried). The annual radioactivities in the site submittals are on an as-stored basis; that is, they represent the curies of each radionuclide added each year at the end of the year in which the waste was placed in storage. The data are entered by the sites on standardized forms. The complete set of TRUW site data submittals for this year's IDB is listed as ref. 5 (Sect. 3.6). In a few cases, it was found necessary to use last year's submittal to the IDB because no submittal was received this year.

3.2.3.2 Site data review and modification

The site data submittals for TRUW were reviewed to make certain, insofar as possible, that the data supplied met the requirements of completeness and consistency. The data review process included modifying the formats of the data so that they could be easily converted to input data files for use in the decay calculations.

3.2.3.3 As-stored volumes and radioactivities

Tables 3.1 through 3.3 summarize a small portion of the information in the site submittals. These tables show the volumes and cumulative as-stored (undecayed) radioactivities of retrievably stored CH and RH TRUW at each site in 5-year increments from 1970 to 1990 and at the end of 1993. Table 3.2 shows total radioactivities (i.e., all radionuclides included), and Table 3.3 shows TRU radioactivity (i.e., only TRU radionuclides included).

3.2.3.4 Calculation of annual decayed radioactivities

As described in last year's IDB report, a computer code converts the annual as-stored radioactivities to annual decayed radioactivities and accumulates these quantities to produce tables showing decayed grams, curies, and watts on a year-by-year, site-by-site, and radionuclide-by-radionuclide basis. Annual added volumes and cumulative volumes are also shown. Volumes are assumed to be unaffected by decay.

In a number of cases, the site-submitted data were not sufficiently detailed to permit the desired decay calculations. The difficulty most frequently encountered was that radionuclide compositions were not adequately specified on a radionuclide-by-radionuclide basis. In some cases, data conversion codes were used to convert site-supplied input

data to the radionuclide-specific forms required for decay calculations. These codes were used as follows:

1. Where the site-supplied data called for mixtures of fission products but did not give quantitative composition data for such mixtures, the assumption was made that the isotopic composition was the same as that specified by Hanford in their submittal to last year's (Rev. 9) IDB report.
2. Certain parent fission products are always accompanied by short-lived daughters. Short-lived daughter fission products are added in cases where the site submittal shows the parent but does not specifically show the daughter and it is clear that the daughter must be present. For example, if a site shows 100 Ci of ^{90}Sr but does not show any ^{90}Y , it is assumed that the 100 Ci is the total activity of parent and daughter and the input is changed to 50 Ci ^{90}Sr and 50 Ci ^{90}Y . Other fission product parent-daughter combinations are handled in the same manner, using the appropriate curie ratio for each combination.

3.2.4 Results of Inventory Calculations

3.2.4.1 Retrievably stored wastes

Tables 3.4 and 3.5 show the cumulative decayed radioactivities of retrievably stored CH and RH TRUWs for each of the sites by 5-year increments from 1970 through 1990 and at the end of 1993. These tables are analogous to Tables 3.2 and 3.3, except that in Tables 3.4 and 3.5 the radioactivities are on a decayed basis; that is, they take into account the processes of radioactive decay and ingrowth of radioactive daughters. As before, Table 3.4 shows total radioactivities (all radionuclides included), and Table 3.5 shows only the radioactivities of TRU radionuclides. As previously stated, it is assumed throughout the tables that volumes of TRUW are not affected by radioactive decay.

Tables 3.6 and 3.7 summarize the total system inventories (i.e., all sites combined) of retrievably stored CH and RH TRUWs at DOE sites for the end of each year from 1970 to 1993. The cumulative masses, radioactivities, and thermal powers shown in these tables are decayed values. The difference between Tables 3.6 and 3.7 is that the masses, radioactivities, and thermal powers in Table 3.6 are based on all the radionuclides in the waste, whereas the quantities shown in Table 3.7 include only the contributions of the TRU radionuclides; daughters of TRU nuclides are not included in Table 3.7.

3.2.4.2 Buried TRUW

Buried TRUW volumes and radioactivities are shown in Tables 3.8 through 3.12. These are based on data provided in the site submittals. The form of the site-submitted data for buried waste is identical to that of the retrievably stored waste except that no distinction is made between CH and RH buried wastes. The buried waste tables (Tables 3.8 through 3.12) are analogous in form and information content to the retrievably stored waste tables (Tables 3.1 through 3.7)

and follow the same general sequence. Table 3.8 shows as-stored volumes by sites and time periods. Tables 3.9 and 3.10 show cumulative as-stored total and TRU-only radioactivities by sites and time periods. Tables 3.11 and 3.12 show cumulative decayed total and TRU-only radioactivities. In these tables, "total" radioactivity means that all radionuclides are included, and "TRU-only" radioactivity means that only TRU nuclides are included.

3.2.4.3 Contaminated soil

Over the years, many of the older buried waste containers have developed leaks and contaminated the adjacent soil. Also, at some sites, soil has become contaminated by liquid spills or has been used as an ion-exchange medium for dilute liquid waste streams. It is difficult to make accurate estimates of the actual quantity of contaminated soil. The data reported by the sites are shown in Table 3.13. Additional characterization efforts will be required to reduce the uncertainties in these data.

3.3 ESTIMATED MIXED WASTE CONTENT OF TRUW

The sites were requested to submit estimates of the volumes of retrievably stored CH and RH TRUWs that might fall into the category of mixed TRUWs. These estimates were requested for three time periods: 1970-1986, 1987-1993, and 1994. Table 3.14 summarizes the site-submitted estimates of these volumes.

3.4 PROJECTED FUTURE QUANTITIES OF TRUW

Table 3.15 shows the data submitted by the sites for estimated future volumes of TRUW generation. The sites were not requested to estimate the radioactivities or isotopic compositions of these wastes, since it was felt that there would be little basis for such estimates. The estimated volumes are given in terms of average annual rates ($m^3/year$) for seven time periods from 1994 to 2020. An effort was made to obtain estimated rates in three categories: (1) general operations, (2) D&D, and (3) remedial action. The estimated effect of volume-reduction processes was also requested; however, little information on this was available.

3.5 TRUW DISPOSAL

The goals of the DOE TRUW Program are to terminate interim storage and achieve permanent disposal of all DOE TRUW.⁶ One of the major efforts in this direction is the WIPP project. As stated in Public Law 96-164,⁷ the WIPP project was to be constructed "... as a defense activity of the DOE for the purpose of providing a research and development facility to demonstrate the safe disposal of radioactive

waste resulting from defense activities and programs of the United States." Construction of the facility is now essentially complete, and WIPP is now the only facility specifically designed for isolation of TRUW. It is designed to emplace about 175,000 m³ of TRUW 650 m below ground in a mined salt formation.

Waste received at WIPP must meet the WIPP-WAC and associated quality assurance requirements specified in WIPP/DOE-069.⁸ A number of other approvals remain to be completed before DOE can begin disposal operations at the facility. As previously stated, a test program of approximately 4 years will be conducted to ensure that the wastes to be shipped to WIPP, and their emplacement at WIPP, will comply with all applicable federal and state regulations. If the test phase is successful and all necessary approvals are obtained, it is planned that shipment and emplacement of wastes will begin and will continue through approximately the year 2018.

In 1993, the WIPP Legislative Land Withdrawal Act was passed, confirming congressional intent to have DOE continue with development and permitting of the facility. Since then, the DOE has stated its intent to accelerate processes leading to the start of waste disposal operations at the WIPP.

3.6 REFERENCES

1. U.S. Department of Energy, *Radioactive Waste Management*, DOE Order 5820.2A, Washington, D.C. (Sept. 26, 1988).
2. K. S. Hollingsworth, *Policy Statement Regarding Solid Waste Burial*, AEC Directive IAD No. 0511-21, Washington, D.C. (Mar. 20, 1970).
3. U.S. Department of Energy, *Defense Waste Management Plan for Buried Transuranic-Contaminated Waste, Transuranic-Contaminated Soil, and Difficult-to-Certify Transuranic Waste*, DOE/DP-0044, Washington, D.C. (June 1987).
4. U.S. Department of Energy, *Integrated Data Base for 1993: U.S. Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics*, DOE/RW-0006, Rev. 9, Oak Ridge National Laboratory, Oak Ridge, Tennessee (March 1994).
5. DOE site TRUW data submittal attachments, submitted to the IDB Program during September-December 1994. The following TRUW submittals were received and reviewed by MACTEC and the IDB Program before analysis and integration. Preceding each submittal is the site (in parentheses) to which it refers.
 - a. (AMES) Kay M. Lampe Hannasch, Ames Laboratory, Ames, Iowa, correspondence to James E. Fletcher, DOE Chicago Operations Office, Argonne, Illinois, "Data Requests for TRU Waste, WIPP Baseline Inventory, IDB Request," dated Sept. 28, 1994.
 - b. (ANL-E) Michael A. Sodaro, Argonne National Laboratory, Argonne, Illinois, correspondence to Jeff Williams, DOE Carlsbad Area Office, Argonne, Illinois, "WIPP TRU Baseline Inventory Report and Integrated Database Forecasts," dated Sept. 30, 1994.
 - c. (ANL-W) No submittal provided.

- d. (ETEC) G. G. Gaylord, Rockwell International Corporation, Canoga Park, California, correspondence to Mark L. Matthews, DOE Carlsbad Area Office, Carlsbad, New Mexico, "TRU Inventory at ETEC," 94ETEC-DRF-1667, dated Oct. 31, 1994.
- e. (HANF) R. D. Wojtaszek, Westinghouse Hanford Company, Richland, Washington, correspondence to Lise Wachter, Martin Marietta Energy Systems, Inc., HAZWRAP, Oliver Springs, Tennessee, "Request for Office of Waste Management, Waste Information Update," 9305688B R1, dated Aug. 30, 1993. Also, F. M. Coony, Westinghouse Hanford Company, Richland, Washington, correspondence to E. W. Krieger, MAC Technical Services Company, Albuquerque, New Mexico, transmitting information on TRUW added to HANF inventory during CY 1993, dated Dec. 7, 1994.
- f. (INEL) Joel T. Case, DOE Idaho Operations Office, Idaho Falls, Idaho, correspondence to Jim Teek, Advance Sciences, Inc., Albuquerque, New Mexico, "Integrated Data Base (IDB) TRU Waste 1994 Data Call," OPE-WM 94-308, dated Oct. 6, 1994.
- g. (LANL) Davis Christensen, Los Alamos National Laboratory, Los Alamos, New Mexico, correspondence to Mark L. Matthews, DOE Carlsbad Area Office, Carlsbad, New Mexico, "WIPP Transuranic Waste Baseline Inventory Report," CST14-94-061, Nov. 1, 1994.
- h. (LBL) Tim Wan, University of California, Berkeley, California, correspondence to Jeff Williams, DOE Carlsbad Area Office, Carlsbad, New Mexico, "Data Package for the Waste Isolation Pilot plant TRU Waste Baseline Inventory Report," HW-94-342, dated Sept. 13, 1994.
- i. (LLNL) Roy Kearns, DOE Oakland Operations Office, Oakland, California, correspondence to Jeff Williams, DOE Carlsbad Area Office, Carlsbad, New Mexico, "Waste Isolation Pilot Plant Transuranic Integrated Database for Lawrence Livermore," 94W399/5484.a.13, dated Oct. 18, 1994.
- j. (MOUND) Raymond J. Finney, EG&G Mound Applied Technologies, Miamisburg, Ohio, correspondence to Robert S. Rothman, DOE Miamisburg Area Office, Miamisburg, Ohio, "Response to the Waste Isolation Pilot Plant (WIPP) Transuranic Waste Baseline Inventory Report (WTWBIR) Data Package," dated Sept. 27, 1994.
- k. (MURR) W. Derek Pickett, University of Missouri, Columbia, Missouri, correspondence to Jim Teek, Advanced Sciences, Inc., Albuquerque, New Mexico, transmitting MURR TRUW information and data for the WIPP TRUW Baseline Inventory Report and the IDB report (Rev. 10), dated Sept. 29, 1994.
- l. (NR sites—BAPL) E. D. Shollenberger, DOE Pittsburgh Naval Reactors Office, West Mifflin, Pennsylvania, correspondence to Mark L. Matthews, DOE Carlsbad Area Office, Carlsbad, New Mexico, "Waste Isolation Pilot Project Transuranic Waste (TRU) Baseline Inventory Report and Updated Integrated Database TRU Information for the Bettis Atomic Power Laboratory," dated Oct. 21, 1994.
- m. (NTS) Joseph M. Ginanni, DOE Nevada Operations Office, Las Vegas, Nevada, correspondence to Jerry Klein, Oak Ridge National Laboratory, Oak Ridge, Tennessee; Jim Teak, Advance Sciences, Inc., Albuquerque, New Mexico; and Jeff Williams, DOE Carlsbad Area Office, Carlsbad, New Mexico, "Nevada Test Site Transuranic and Mixed Transuranic Inventory Data for the 1994 Integrated Data Base Report (DOE/RW-0006, Rev. 10)," dated Oct. 14, 1994.
- n. (ORNL) P. E. Arakawa, Oak Ridge National Laboratory, Oak Ridge, Tennessee, correspondence to Mac Roddy, DOE Oak Ridge Operations Office, Oak Ridge, Tennessee, "Complete Review and Revision of Data Package for the WIPP Transuranic Waste Baseline Inventory Report (WTWBIR)," dated Nov. 2, 1994.
- o. (PAD) No submittal provided.

- p. (PANT) D. L. Heim, DOE Amarillo Area Office, Amarillo, Texas, correspondence to Jeff Williams, DOE Carlsbad Area Office, Carlsbad, New Mexico, "WIPP Transuranic (TRU) Waste Baseline Inventory Report and Integrated Database Report," dated Sept. 28, 1994.
 - q. (RFP) G. A. O'Leary, EG&G Rocky Flats Inc., Golden Colorado, correspondence to Paul Drez, Drez and Associates, Albuquerque, New Mexico, "Transmittal of the Rocky Flats Environmental Technology Site (RFETS) Data Forms for the Waste Isolation Pilot Plant (WIPP) Transuranic (TRU) Waste Baseline Inventory Report (WTWBIR)—GAO-039-94," 94-RF-10526, dated Oct. 13, 1994.
 - r. (SNL/NM) No cover letter provided with site data submittal.
 - s. (SRS) S. J. Mentrup, Westinghouse Savannah River Company, Aiken, South Carolina, correspondence to Stan Massingill, DOE Savannah River Operations Office, Aiken, South Carolina, "SRS Data Package for WIPP TRU Waste Baseline Inventory Report (U)," SWE-SWE-94-0550, dated Oct. 12, 1994.
 - t. (WVDP) P. S. Klanian, West Valley Nuclear Services Company, Inc., West Valley, New York, correspondence to Jeff Williams, DOE Carlsbad Area Office, Carlsbad, New Mexico, "Data Package for WIPP Transuranic Waste Baseline Inventory Report (WTWBIR)," dated Nov. 14, 1994.
- 6. U.S. Department of Energy, *Long Range Master Plan for Defense Transuranic Waste Program*, DOE/WIPP 88-028, Carlsbad, New Mexico (December 1988).
 - 7. U.S. Congress, Department of Energy National Security and Military Application of Nuclear Energy Authorization Act of 1980, Pub. L. 96-164 (1980).
 - 8. U.S. Department of Energy, *TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, WIPP/DOE-069, Rev. 4, Carlsbad, New Mexico (December 1991).

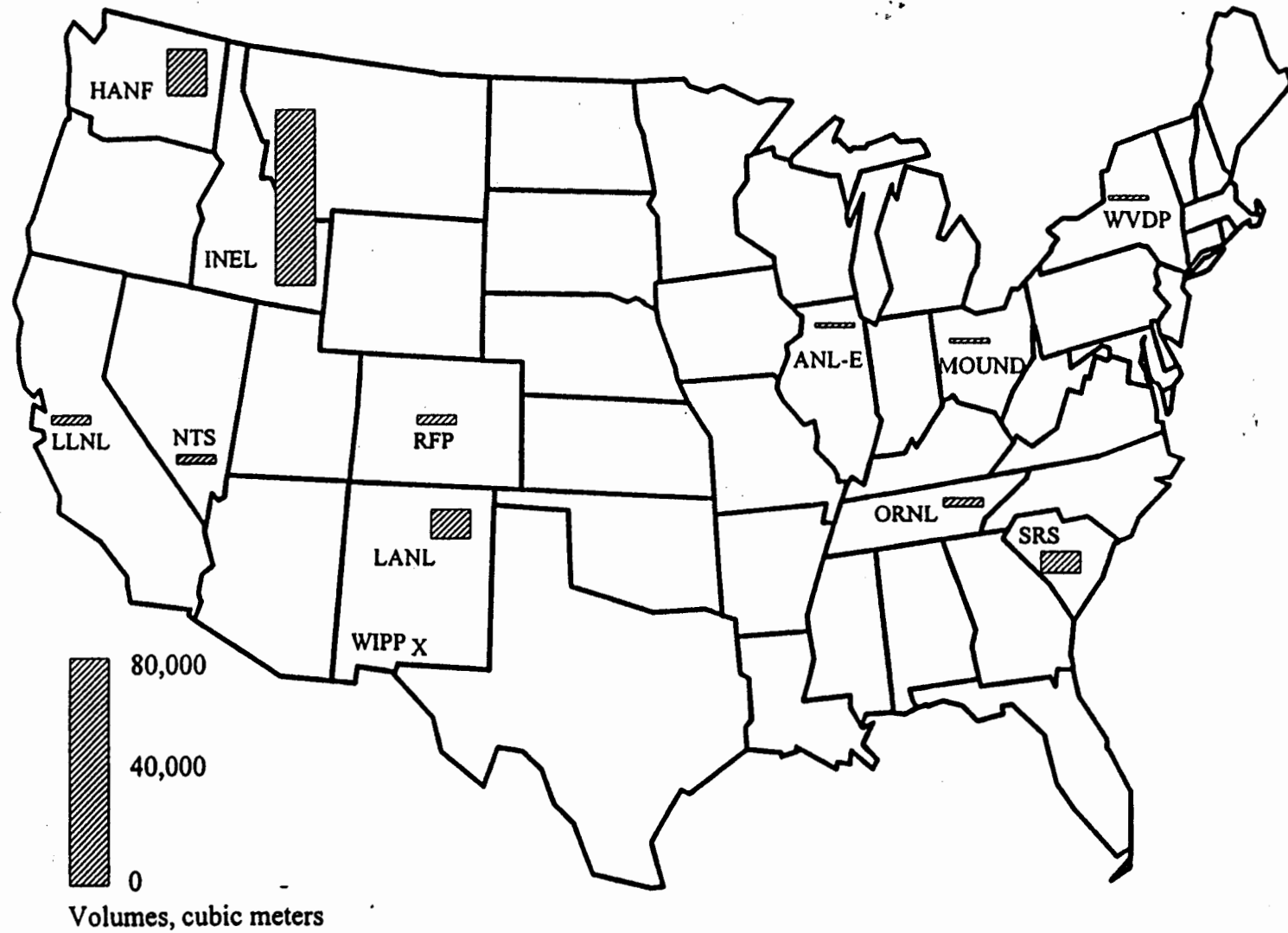


Fig. 3.1. Locations and total volumes of retrievably stored DOE TRUW through 1993.

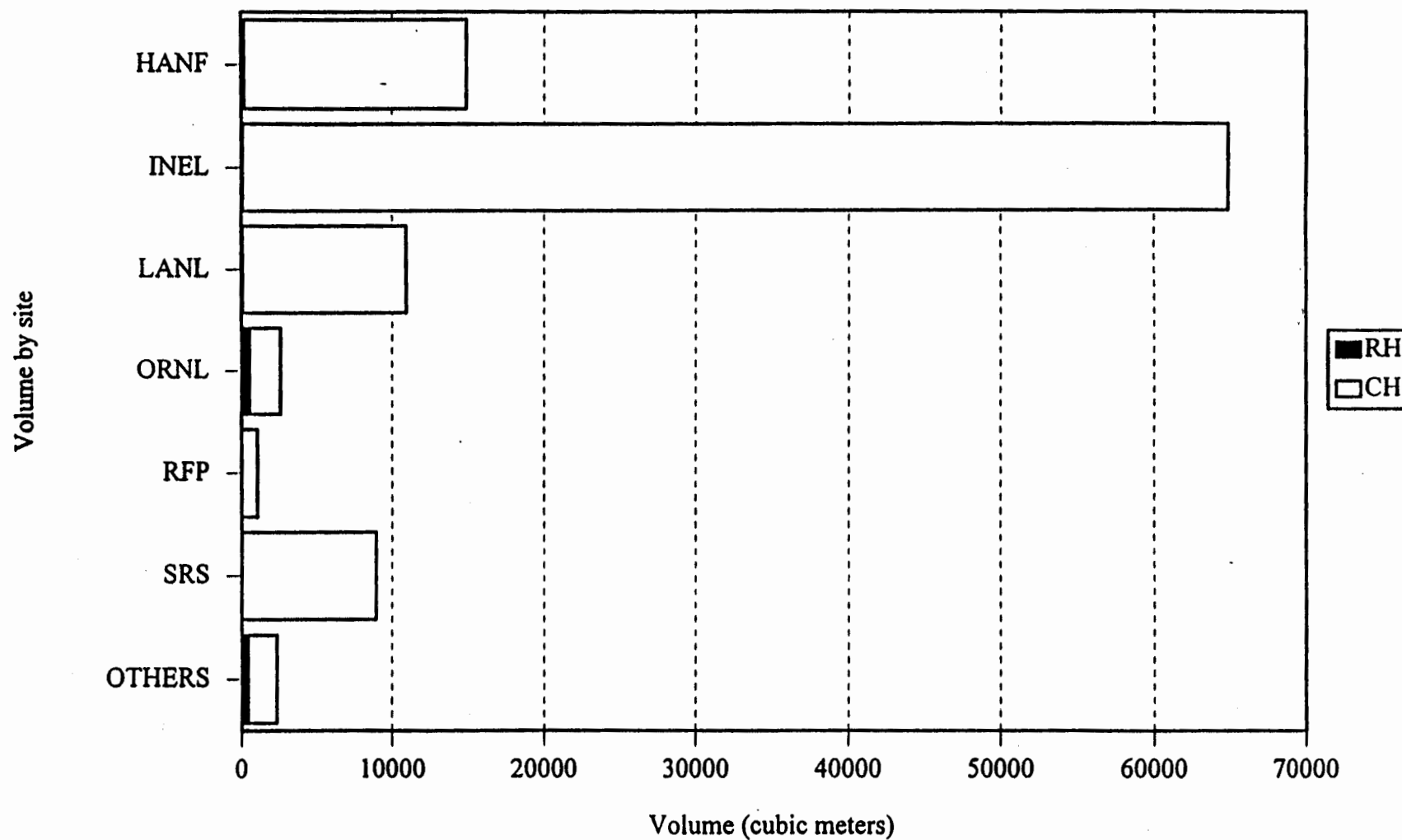


Fig. 3.2. Retrievably stored TRUW volumes at the end of 1993, by site.

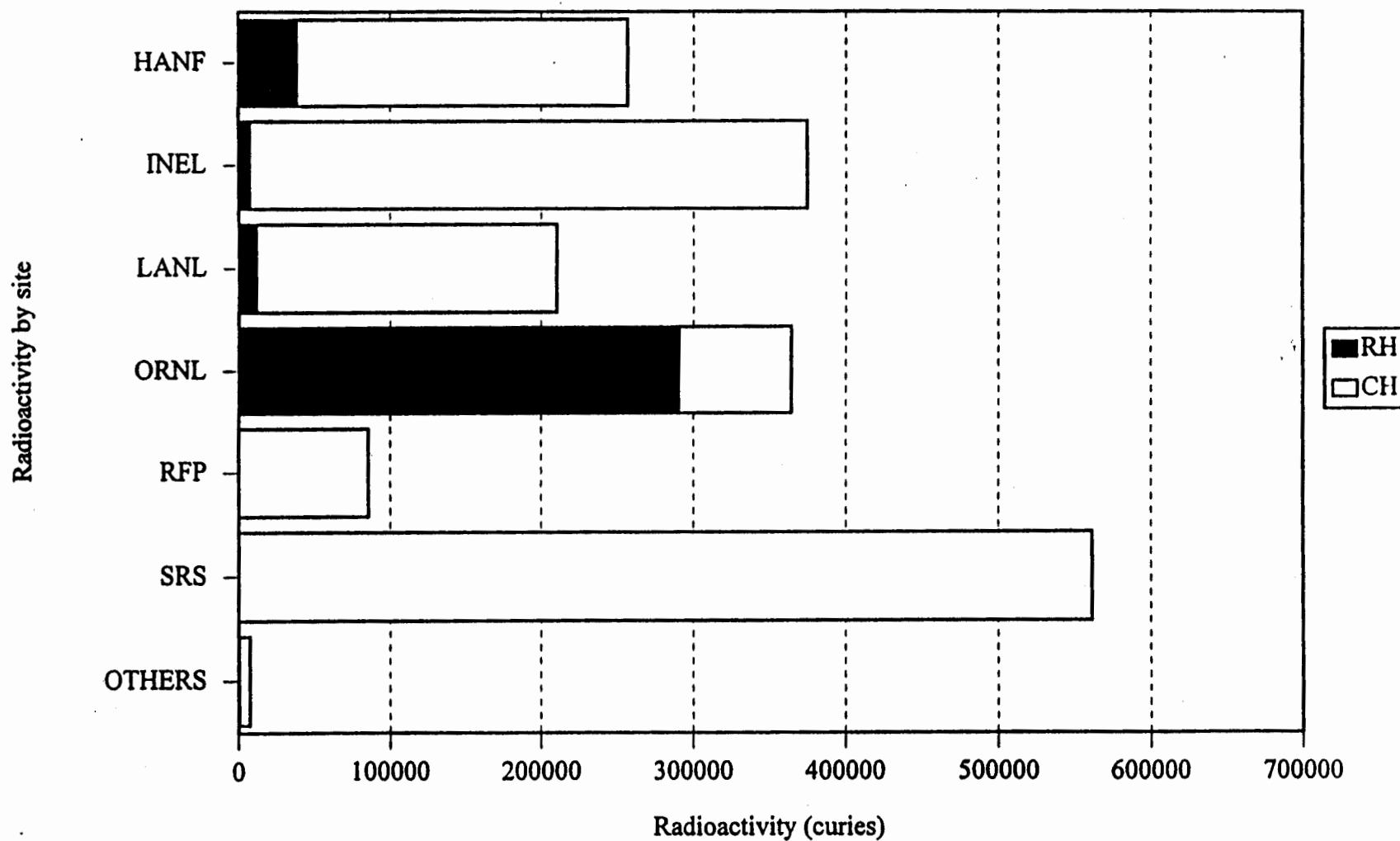


Fig. 3.3. Retrievably stored TRUW decayed radioactivity at the end of 1993, by site.

Table 3.1. Summary of retrievably stored TRUW by sites: cumulative as-stored volumes

| Site name | Site acronym | Cumulative volume at end of calendar year, m ³ | | | | | |
|--|--------------|---|----------|----------|----------|-----------|-----------|
| | | 1970 | 1975 | 1980 | 1985 | 1990 | 1993 |
| Contact handled | | | | | | | |
| Ames Laboratory | AMES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Argonne National Laboratory-East | ANL-E | 0.0 | 0.0 | 0.0 | 0.0 | 25.5 | 29.1 |
| Energy Technology Engineering Center | ETEC | 0.0 | 0.0 | 0.0 | 0.0 | 1.9 | 1.9 |
| Hanford Site | HANF | 745.2 | 5,541.6 | 10,086.3 | 14,668.9 | 15,282.3 | 15,608.9 |
| Idaho National Engineering Laboratory | INEL | 1,420.0 | 28,356.0 | 42,341.0 | 57,615.0 | 64,774.0 | 64,774.0 |
| Knolls Atomic Power Laboratory | KAPL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lawrence Berkeley Laboratory | LBL | 0.0 | 0.0 | 0.0 | 0.4 | 0.8 | 0.9 |
| Lawrence Livermore National Laboratory | LLNL | 0.0 | 0.0 | 0.0 | 0.0 | 194.5 | 235.0 |
| Los Alamos National Laboratory | LANL | 0.0 | 3,352.3 | 5,963.6 | 8,800.5 | 10,357.3 | 10,810.9 |
| Mound | MOUND | 0.0 | 1.7 | 4.7 | 7.7 | 10.7 | 11.9 |
| Nevada Test Site | NTS | 0.0 | 34.9 | 177.9 | 550.2 | 606.8 | 607.1 |
| Oak Ridge National Laboratory | ORNL | 12.6 | 541.0 | 726.7 | 901.4 | 1,049.6 | 2,015.2 |
| Paducah Gaseous Diffusion Plant | PAD | 0.0 | 0.0 | 0.0 | 0.0 | 4.3 | 4.3 |
| Pantex Plant | PANT | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 |
| Rocky Flats Plant | RFP | 0.0 | 0.0 | 0.0 | 0.0 | 952.0 | 1,040.0 |
| Sandia National Laboratory/New Mexico | SNL/NM | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 |
| Savannah River Site | SRS | 0.0 | 603.5 | 1,752.3 | 3,849.4 | 7,334.7 | 8,925.9 |
| University of Missouri | MURR | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| West Valley Demonstration Project | WVDP | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 49.1 |
| Total | | 2,177.8 | 38,431.0 | 61,052.5 | 86,393.5 | 100,594.4 | 104,115.8 |
| Remote handled | | | | | | | |
| Ames Laboratory | AMES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Argonne National Laboratory-East | ANL-E | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 |
| Energy Technology Engineering Center | ETEC | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Hanford Site | HANF | 10.3 | 127.8 | 194.9 | 198.2 | 201.0 | 201.0 |
| Idaho National Engineering Laboratory | INEL | 0.0 | 0.0 | 17.6 | 48.8 | 73.8 | 79.8 |
| Knolls Atomic Power Laboratory | KAPL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.4 |
| Lawrence Berkeley Laboratory | LBL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lawrence Livermore National Laboratory | LLNL | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Los Alamos National Laboratory | LANL | 0.0 | 0.0 | 7.9 | 27.4 | 27.4 | 91.3 |
| Mound | MOUND | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Nevada Test Site | NTS | 0.0 | 0.2 | 0.6 | 5.3 | 5.3 | 5.3 |

Table 3.1 (continued)

| Site name | Site acronym | Cumulative volume at end of calendar year, m ³ | | | | | |
|---------------------------------------|--------------|---|-------|-------|-------|-------|---------|
| | | 1970 | 1975 | 1980 | 1985 | 1990 | 1993 |
| Oak Ridge National Laboratory | ORNL | 1.7 | 221.3 | 361.2 | 440.3 | 540.6 | 563.9 |
| Paducah Gaseous Diffusion Plant | PAD | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Pantex Plant | PANT | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Rocky Flats Plant | RFP | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sandia National Laboratory/New Mexico | SNL/NM | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 |
| Savannah River Site | SRS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| University of Missouri | MURR | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| West Valley Demonstration Project | WVDP | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 427.0 |
| Total | | 12.0 | 349.3 | 582.2 | 720.0 | 540.6 | 1,373.3 |

Table 3.2. Summary of retrievably stored TRUW by sites: cumulative as-stored radioactivity (all radionuclides)

| Site name | Site acronym | Cumulative as-stored radioactivity at end of calendar year, 10 ³ Ci | | | | | |
|--|--------------|--|--------|--------|----------|----------|----------|
| | | 1970 | 1975 | 1980 | 1985 | 1990 | 1993 |
| Contact handled | | | | | | | |
| Ames Laboratory | AMES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Argonne National Laboratory-East | ANL-E | 0.00 | 0.00 | 0.00 | 0.00 | 0.12 | 0.13 |
| Energy Technology Engineering Center | ETEC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| Hanford Site | HANF | 1.05 | 19.61 | 191.49 | 278.45 | 325.62 | 331.57 |
| Idaho National Engineering Laboratory | INEL | 4.22 | 126.46 | 255.92 | 405.07 | 496.42 | 496.46 |
| Knolls Atomic Power Laboratory | KAPL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Berkeley Laboratory | LBL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Livermore National Laboratory | LLNL | 0.00 | 0.00 | 0.00 | 0.00 | 0.93 | 2.24 |
| Los Alamos National Laboratory | LANL | 0.00 | 49.18 | 108.46 | 151.01 | 212.92 | 218.96 |
| Mound | MOUND | 0.00 | 0.15 | 0.39 | 0.63 | 0.88 | 0.98 |
| Nevada Test Site | NTS | 0.00 | 0.25 | 1.12 | 3.30 | 4.00 | 4.00 |
| Oak Ridge National Laboratory | ORNL | 0.05 | 12.48 | 17.80 | 98.19 | 99.65 | 103.57 |
| Paducah Gaseous Diffusion Plant | PAD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.11 |
| Pantex Plant | PANT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rocky Flats Plant | RFP | 0.00 | 0.00 | 0.00 | 0.00 | 48.66 | 93.59 |
| Sandia National Laboratory/New Mexico | SNL/NM | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Savannah River Site | SRS | 0.00 | 277.35 | 376.09 | 575.83 | 654.14 | 664.48 |
| University of Missouri | MURR | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Valley Demonstration Project | WVDP | 0.00 | 0.00 | 0.00 | 0.03 | 0.05 | 0.05 |
| Total | | 5.32 | 485.48 | 951.27 | 1,512.50 | 1,843.38 | 1,916.14 |
| Remote handled | | | | | | | |
| Ames Laboratory | AMES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Argonne National Laboratory-East | ANL-E | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| Energy Technology Engineering Center | ETEC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hanford Site | HANF | 27.09 | 55.69 | 471.47 | 479.90 | 481.88 | 481.88 |
| Idaho National Engineering Laboratory | INEL | 0.00 | 0.00 | 0.49 | 4.93 | 10.53 | 10.64 |
| Knolls Atomic Power Laboratory | KAPL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.11 |
| Lawrence Berkeley Laboratory | LBL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Livermore National Laboratory | LLNL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Alamos National Laboratory | LANL | 0.00 | 0.00 | 0.96 | 3.43 | 3.45 | 14.90 |
| Mound | MOUND | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada Test Site | NTS | 0.00 | 0.00 | 0.04 | 0.25 | 0.25 | 0.25 |

Table 3.2 (continued)

| Site name | Site acronym | Cumulative as-stored radioactivity at end of calendar year, 10 ³ Ci | | | | | |
|---------------------------------------|--------------|--|-------|--------|--------|--------|--------|
| | | 1970 | 1975 | 1980 | 1985 | 1990 | 1993 |
| Oak Ridge National Laboratory | ORNL | 0.00 | 0.60 | 0.76 | 0.98 | 167.24 | 178.13 |
| Paducah Gaseous Diffusion Plant | PAD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pantex Plant | PANT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rocky Flats Plant | RFP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sandia National Laboratory/New Mexico | SNL/NM | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Savannah River Site | SRS | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| University of Missouri | MURR | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Valley Demonstration Project | WVDP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | | 27.09 | 56.30 | 473.72 | 489.48 | 663.36 | 685.92 |

Table 3.3. Summary of retrievably stored TRUW by sites: cumulative as-stored radioactivity (TRU radionuclides only)

| Site name | Site acronym | Cumulative as-stored radioactivity at end of calendar year, 10 ³ Ci | | | | | |
|--|--------------|--|--------|--------|--------|----------|----------|
| | | 1970 | 1975 | 1980 | 1985 | 1990 | 1993 |
| Contact handled | | | | | | | |
| Ames Laboratory | AMES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Argonne National Laboratory-East | ANL-E | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.05 |
| Energy Technology Engineering Center | ETEC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hanford Site | HANF | 0.19 | 3.22 | 106.81 | 119.34 | 123.87 | 124.82 |
| Idaho National Engineering Laboratory | INEL | 1.52 | 50.87 | 122.85 | 183.83 | 205.34 | 205.35 |
| Knolls Atomic Power Laboratory | KAPL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Berkeley Laboratory | LBL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Livermore National Laboratory | LLNL | 0.00 | 0.00 | 0.00 | 0.00 | 0.15 | 0.35 |
| Los Alamos National Laboratory | LANL | 0.00 | 48.66 | 104.85 | 144.69 | 206.42 | 212.47 |
| Mound | MOUND | 0.00 | 0.15 | 0.39 | 0.63 | 0.88 | 0.98 |
| Nevada Test Site | NTS | 0.00 | 0.24 | 0.97 | 3.01 | 3.29 | 3.29 |
| Oak Ridge National Laboratory | ORNL | 0.01 | 6.28 | 6.59 | 9.89 | 10.01 | 10.73 |
| Paducah Gaseous Diffusion Plant | PAD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.11 |
| Pantex Plant | PANT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rocky Flats Plant | RFP | 0.00 | 0.00 | 0.00 | 0.00 | 12.73 | 28.06 |
| Sandia National Laboratory/New Mexico | SNL/NM | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Savannah River Site | SRS | 0.00 | 250.87 | 335.90 | 505.74 | 549.61 | 558.85 |
| University of Missouri | MURR | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Valley Demonstration Project | WVDP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | | 1.72 | 360.30 | 678.36 | 967.12 | 1,112.35 | 1,145.05 |

| | | | | | | | |
|--|-------|------|------|------|------|------|------|
| Remote handled | | | | | | | |
| Ames Laboratory | AMES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Argonne National Laboratory-East | ANL-E | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy Technology Engineering Center | ETEC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hanford Site | HANF | 0.02 | 0.19 | 0.41 | 0.52 | 0.56 | 0.56 |
| Idaho National Engineering Laboratory | INEL | 0.00 | 0.00 | 0.01 | 0.03 | 0.10 | 0.10 |
| Knolls Atomic Power Laboratory | KAPL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Berkeley Laboratory | LBL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Livermore National Laboratory | LLNL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Alamos National Laboratory | LANL | 0.00 | 0.00 | 0.04 | 0.09 | 0.09 | 0.23 |
| Mound | MOUND | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada Test Site | NTS | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Table 3.3 (continued)

| Site name | Site acronym | Cumulative as-stored radioactivity at end of calendar year, 10 ³ Ci | | | | | |
|---------------------------------------|--------------|--|------|------|------|------|------|
| | | 1970 | 1975 | 1980 | 1985 | 1990 | 1993 |
| Oak Ridge National Laboratory | ORNL | 0.00 | 0.02 | 0.03 | 0.05 | 1.06 | 1.12 |
| Paducah Gaseous Diffusion Plant | PAD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pantex Plant | PANT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rocky Flats Plant | RFP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sandia National Laboratory/New Mexico | SNL/NM | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Savannah River Site | SRS | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| University of Missouri | MURR | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Valley Demonstration Project | WVDP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | | 0.02 | 0.21 | 0.49 | 0.69 | 1.81 | 2.01 |

Table 3.4. Summary of retrievably stored TRUW by sites: cumulative decayed radioactivity (all radionuclides)

| Site name | Site acronym | Cumulative decayed radioactivity at end of calendar year, 10 ³ Ci | | | | | |
|--|--------------|--|--------|--------|----------|----------|----------|
| | | 1970 | 1975 | 1980 | 1985 | 1990 | 1993 |
| Contact handled | | | | | | | |
| Ames Laboratory | AMES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Argonne National Laboratory-East | ANL-E | 0.00 | 0.00 | 0.00 | 0.00 | 0.11 | 0.11 |
| Energy Technology Engineering Center | ETEC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| Hanford Site | HANF | 1.05 | 18.23 | 183.76 | 244.40 | 229.40 | 218.06 |
| Idaho National Engineering Laboratory | INEL | 4.22 | 120.86 | 230.01 | 348.66 | 393.67 | 366.95 |
| Knolls Atomic Power Laboratory | KAPL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Berkeley Laboratory | LBL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Livermore National Laboratory | LLNL | 0.00 | 0.00 | 0.00 | 0.00 | 0.89 | 2.06 |
| Los Alamos National Laboratory | LANL | 0.00 | 48.71 | 102.16 | 140.90 | 195.36 | 198.40 |
| Mound | MOUND | 0.00 | 0.15 | 0.38 | 0.61 | 0.83 | 0.91 |
| Nevada Test Site | NTS | 0.00 | 0.26 | 1.11 | 3.26 | 3.86 | 3.78 |
| Oak Ridge National Laboratory | ORNL | 0.05 | 11.26 | 19.60 | 94.42 | 78.82 | 74.09 |
| Paducah Gaseous Diffusion Plant | PAD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.11 |
| Pantex Plant | PANT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rocky Flats Plant | RFP | 0.00 | 0.00 | 0.00 | 0.00 | 47.04 | 85.49 |
| Sandia National Laboratory/New Mexico | SNL/NM | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Savannah River Site | SRS | 0.00 | 269.15 | 351.45 | 527.25 | 571.85 | 561.52 |
| University of Missouri | MURR | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Valley Demonstration Project | WVDP | 0.00 | 0.00 | 0.00 | 0.03 | 0.05 | 0.04 |
| Total | | 5.32 | 468.62 | 888.47 | 1,359.53 | 1,521.88 | 1,511.54 |
| Remote handled | | | | | | | |
| Ames Laboratory | AMES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Argonne National Laboratory-East | ANL-E | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 |
| Energy Technology Engineering Center | ETEC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hanford Site | HANF | 27.09 | 28.85 | 293.19 | 64.16 | 45.02 | 38.44 |
| Idaho National Engineering Laboratory | INEL | 0.00 | 0.00 | 0.58 | 7.03 | 9.10 | 7.79 |
| Knolls Atomic Power Laboratory | KAPL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 |
| Lawrence Berkeley Laboratory | LBL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Livermore National Laboratory | LLNL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Alamos National Laboratory | LANL | 0.00 | 0.00 | 0.88 | 0.73 | 0.36 | 11.80 |
| Mound | MOUND | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada Test Site | NTS | 0.00 | 0.00 | 0.04 | 0.23 | 0.19 | 0.17 |

Table 3.4 (continued)

| Site name | Site acronym | Cumulative as-stored radioactivity at end of calendar year, 10 ³ Ci | | | | | |
|---------------------------------------|--------------|--|-------|--------|-------|--------|--------|
| | | 1970 | 1975 | 1980 | 1985 | 1990 | 1993 |
| Oak Ridge National Laboratory | ORNL | 0.00 | 0.53 | 0.51 | 0.60 | 295.02 | 290.20 |
| Paducah Gaseous Diffusion Plant | PAD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pantex Plant | PANT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rocky Flats Plant | RFP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sandia National Laboratory/New Mexico | SNL/NM | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Savannah River Site | SRS | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| University of Missouri | MURR | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Valley Demonstration Project | WVDP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | | 27.09 | 29.38 | 295.20 | 72.75 | 349.69 | 348.53 |

Table 3.5. Summary of retrievably stored TRUW by sites: cumulative decayed radioactivity (TRU radionuclides only)

| Site name | Site acronym | Cumulative decayed radioactivity at end of calendar year, 10 ³ Ci | | | | | |
|--|--------------|--|--------|--------|--------|----------|----------|
| | | 1970 | 1975 | 1980 | 1985 | 1990 | 1993 |
| Contact handled | | | | | | | |
| Ames Laboratory | AMES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Argonne National Laboratory-East | ANL-E | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.05 |
| Energy Technology Engineering Center | ETEC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hanford Site | HANF | 0.19 | 3.25 | 107.01 | 116.77 | 118.79 | 118.24 |
| Idaho National Engineering Laboratory | INEL | 1.52 | 50.91 | 122.40 | 181.58 | 201.41 | 200.38 |
| Knolls Atomic Power Laboratory | KAPL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Berkeley Laboratory | LBL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Livermore National Laboratory | LLNL | 0.00 | 0.00 | 0.00 | 0.00 | 0.15 | 0.35 |
| Los Alamos National Laboratory | LANL | 0.00 | 48.36 | 101.55 | 137.44 | 194.68 | 197.92 |
| Mound | MOUND | 0.00 | 0.15 | 0.38 | 0.61 | 0.83 | 0.91 |
| Nevada Test Site | NTS | 0.00 | 0.24 | 0.96 | 3.00 | 3.27 | 3.27 |
| Oak Ridge National Laboratory | ORNL | 0.01 | 6.14 | 6.27 | 9.45 | 9.83 | 10.65 |
| Paducah Gaseous Diffusion Plant | PAD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.11 |
| Pantex Plant | PANT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rocky Flats Plant | RFP | 0.00 | 0.00 | 0.00 | 0.00 | 12.77 | 28.27 |
| Sandia National Laboratory/New Mexico | SNL/NM | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Savannah River Site | SRS | 0.00 | 243.64 | 318.77 | 473.72 | 499.52 | 497.85 |
| University of Missouri | MURR | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Valley Demonstration Project | WVDP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | | 1.72 | 352.69 | 657.35 | 922.56 | 1,041.30 | 1,058.01 |
| Remote handled | | | | | | | |
| Ames Laboratory | AMES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Argonne National Laboratory-East | ANL-E | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy Technology Engineering Center | ETEC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hanford Site | HANF | 0.02 | 0.20 | 0.44 | 0.60 | 0.67 | 0.70 |
| Idaho National Engineering Laboratory | INEL | 0.00 | 0.00 | 0.01 | 0.03 | 0.10 | 0.10 |
| Knolls Atomic Power Laboratory | KAPL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Berkeley Laboratory | LBL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Livermore National Laboratory | LLNL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Alamos National Laboratory | LANL | 0.00 | 0.00 | 0.04 | 0.09 | 0.09 | 0.23 |
| Mound | MOUND | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada Test Site | NTS | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Table 3.5 (continued)

| Site name | Site acronym | Cumulative as-stored radioactivity at end of calendar year, 10 ³ Ci | | | | | |
|---------------------------------------|--------------|--|------|------|------|------|------|
| | | 1970 | 1975 | 1980 | 1985 | 1990 | 1993 |
| Oak Ridge National Laboratory | ORNL | 0.00 | 0.02 | 0.03 | 0.05 | 1.04 | 1.07 |
| Paducah Gaseous Diffusion Plant | PAD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pantex Plant | PANT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rocky Flats Plant | RFP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sandia National Laboratory/New Mexico | SNL/NM | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Savannah River Site | SRS | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| University of Missouri | MURR | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Valley Demonstration Project | WVDP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | | 0.02 | 0.22 | 0.52 | 0.76 | 1.91 | 2.10 |

Table 3.6. Retrievably stored TRUW inventories and decayed characteristics,
total of all sites, all radionuclides included

| End of calendar year | Volume (m ³) | | Total mass ^a (kg) | | Radioactivity (10 ³ Ci) | | Thermal power (10 ³ W) | |
|----------------------------|-----------------------------|------------|---------------------------------|------------|---------------------------------------|------------|--------------------------------------|------------|
| | Annual | Cumulative | Annual | Cumulative | Annual | Cumulative | Annual | Cumulative |
| Contact handled | | | | | | | | |
| 1970 | 2,177.8 | 2,177.8 | 47.1 | 47.1 | 5.32 | 5.32 | 0.06 | 0.06 |
| 1971 | 8,955.7 | 11,133.4 | 331.3 | 378.4 | 233.12 | 238.26 | 7.28 | 7.34 |
| 1972 | 7,542.4 | 18,675.8 | 1,087.9 | 1,466.3 | 69.46 | 305.13 | 1.66 | 8.95 |
| 1973 | 7,120.4 | 25,796.2 | 131.8 | 1,598.1 | 29.88 | 331.29 | 0.46 | 9.34 |
| 1974 | 5,746.9 | 31,543.1 | 3,950.9 | 5,549.1 | 69.27 | 396.17 | 1.64 | 10.91 |
| 1975 | 6,887.8 | 38,430.9 | 885.6 | 6,434.6 | 78.44 | 468.62 | 0.94 | 11.77 |
| 1976 | 2,464.9 | 40,895.7 | 4,374.6 | 10,809.2 | 48.80 | 509.33 | 1.19 | 12.88 |
| 1977 | 5,651.9 | 46,547.6 | 730.3 | 11,539.5 | 64.83 | 565.33 | 1.39 | 14.18 |
| 1978 | 4,016.0 | 50,563.7 | 192.1 | 11,731.6 | 67.58 | 622.07 | 1.58 | 15.66 |
| 1979 | 5,421.1 | 55,984.7 | 3,403.2 | 15,134.8 | 91.29 | 707.17 | 1.77 | 17.35 |
| 1980 | 5,067.7 | 61,052.4 | 4,611.1 | 19,745.9 | 193.29 | 888.47 | 4.62 | 21.86 |
| 1981 | 5,255.1 | 66,307.5 | 1,105.3 | 20,851.2 | 100.30 | 973.81 | 2.16 | 23.88 |
| 1982 | 4,967.6 | 71,275.1 | 1,082.9 | 21,934.2 | 102.40 | 1,059.86 | 2.38 | 26.11 |
| 1983 | 4,634.3 | 75,909.3 | 1,238.3 | 23,172.4 | 84.72 | 1,126.81 | 2.03 | 27.95 |
| 1984 | 5,045.9 | 80,955.2 | 734.0 | 23,906.4 | 154.89 | 1,265.86 | 1.31 | 29.07 |
| 1985 | 5,438.2 | 86,393.5 | 307.7 | 24,214.1 | 118.93 | 1,359.53 | 1.72 | 30.61 |
| 1986 | 5,337.0 | 91,730.5 | 375.8 | 24,589.9 | 114.44 | 1,439.14 | 1.30 | 31.68 |
| 1987 | 3,147.9 | 94,878.3 | 466.7 | 25,056.7 | 75.36 | 1,473.21 | 1.22 | 32.66 |
| 1988 | 2,631.6 | 97,509.9 | 294.6 | 25,351.2 | 52.01 | 1,491.59 | 0.97 | 33.42 |
| 1989 | 1,698.2 | 99,208.1 | 231.6 | 25,582.9 | 44.67 | 1,506.22 | 0.65 | 33.87 |
| 1990 | 1,386.4 | 100,594.4 | 209.1 | 25,792.0 | 44.38 | 1,521.88 | 0.61 | 34.30 |
| 1991 | 1,717.2 | 102,311.7 | 155.5 | 25,947.5 | 35.31 | 1,528.99 | 0.60 | 34.71 |
| 1992 | 361.4 | 102,673.0 | 96.4 | 26,043.9 | 26.16 | 1,527.58 | 0.25 | 34.78 |
| 1993 | 1,442.8 | 104,115.9 | 125.6 | 26,169.5 | 11.29 | 1,511.54 | 0.22 | 34.81 |
| Remote handled | | | | | | | | |
| 1970 | 12.0 | 12.0 | 29.6 | 29.6 | 27.09 | 27.09 | 0.32 | 0.32 |
| 1971 | 15.9 | 27.8 | 22.5 | 52.1 | 7.85 | 29.95 | 0.09 | 0.36 |
| 1972 | 94.9 | 122.8 | 12.1 | 64.2 | 2.86 | 28.48 | 0.03 | 0.34 |
| 1973 | 59.8 | 182.5 | 0.5 | 64.7 | 7.73 | 32.42 | 0.04 | 0.34 |
| 1974 | 41.1 | 223.6 | 0.8 | 65.4 | 5.88 | 31.46 | 0.02 | 0.31 |
| 1975 | 125.7 | 349.3 | 1.4 | 66.8 | 4.88 | 29.38 | 0.05 | 0.31 |
| 1976 | 76.6 | 425.9 | 2.7 | 69.5 | 5.25 | 30.00 | 0.02 | 0.29 |
| 1977 | 56.6 | 482.5 | 2.1 | 71.6 | 14.35 | 38.75 | 0.16 | 0.41 |
| 1978 | 49.4 | 531.9 | 2.9 | 74.5 | 1.12 | 34.05 | 0.00 | 0.35 |
| 1979 | 23.1 | 555.0 | 8.1 | 82.5 | 234.91 | 265.11 | 1.10 | 1.41 |
| 1980 | 27.1 | 582.1 | 3.7 | 86.2 | 161.78 | 295.20 | 0.69 | 1.47 |
| 1981 | 33.2 | 615.4 | 9.5 | 95.7 | 5.13 | 164.14 | 0.05 | 0.88 |
| 1982 | 33.1 | 648.4 | 2.9 | 98.6 | 3.33 | 115.24 | 0.02 | 0.64 |
| 1983 | 34.2 | 682.6 | 15.6 | 114.2 | 3.80 | 92.69 | 0.01 | 0.52 |
| 1984 | 20.8 | 703.5 | 12.1 | 126.2 | 0.78 | 77.57 | 0.01 | 0.44 |
| 1985 | 16.5 | 720.0 | 3.1 | 129.3 | 2.73 | 72.75 | 0.01 | 0.40 |
| 1986 | 18.8 | 738.8 | 2.4 | 131.6 | 1.39 | 66.14 | 0.01 | 0.37 |
| 1987 | 88.8 | 827.6 | 6,456.0 | 6,587.6 | 19.45 | 97.62 | 0.04 | 0.46 |
| 1988 | 5.2 | 832.8 | 3.5 | 6,591.2 | 4.12 | 98.46 | 0.01 | 0.45 |
| 1989 | 3.3 | 836.1 | 153,569.2 | 160,160.4 | 144.29 | 355.44 | 0.40 | 1.43 |
| 1990 | 12.0 | 848.1 | 4,625.7 | 164,786.1 | 4.64 | 349.69 | 0.01 | 1.39 |
| 1991 | 55.9 | 903.9 | 6,475.8 | 171,261.9 | 6.12 | 349.21 | 0.02 | 1.38 |

Table 3.6 (continued)

| End of calendar year | Volume (m ³) | | Total mass ^a (kg) | | Radioactivity (10 ³ Ci) | | Thermal power (10 ³ W) | |
|----------------------------|-----------------------------|------------|---------------------------------|------------|---------------------------------------|------------|--------------------------------------|------------|
| | Annual | Cumulative | Annual | Cumulative | Annual | Cumulative | Annual | Cumulative |
| Remote handled (continued) | | | | | | | | |
| 1992 | 435.9 | 1,339.9 | 5,088.1 | 176,350.0 | 4.89 | 347.22 | 0.01 | 1.36 |
| 1993 | 33.3 | 1,373.2 | 2.2 | 176,352.3 | 11.56 | 348.53 | 0.04 | 1.34 |
| Total | | | | | | | | |
| 1970 | 2,189.7 | 2,189.7 | 76.7 | 76.7 | 32.41 | 32.41 | 0.38 | 0.38 |
| 1971 | 8,971.5 | 11,161.3 | 353.8 | 430.5 | 240.98 | 268.21 | 7.37 | 7.70 |
| 1972 | 7,637.3 | 18,798.5 | 1,100.0 | 1,530.5 | 72.32 | 333.61 | 1.70 | 9.29 |
| 1973 | 7,180.2 | 25,978.7 | 132.3 | 1,662.8 | 37.60 | 363.70 | 0.49 | 9.67 |
| 1974 | 5,788.0 | 31,766.7 | 3,951.7 | 5,614.5 | 75.15 | 427.63 | 1.66 | 11.21 |
| 1975 | 7,013.5 | 38,780.2 | 8,87.0 | 6,501.4 | 83.32 | 497.99 | 1.00 | 12.08 |
| 1976 | 2,541.5 | 41,321.6 | 4,377.2 | 10,878.7 | 54.05 | 539.34 | 1.22 | 13.17 |
| 1977 | 5,708.5 | 47,030.1 | 732.4 | 11,611.1 | 79.18 | 604.08 | 1.55 | 14.58 |
| 1978 | 4,065.4 | 51,095.6 | 195.0 | 11,806.1 | 68.70 | 656.12 | 1.59 | 16.01 |
| 1979 | 5,444.2 | 56,539.7 | 3,411.3 | 15,217.4 | 326.20 | 972.28 | 2.87 | 18.76 |
| 1980 | 5,094.8 | 61,634.5 | 4,614.8 | 19,832.1 | 355.08 | 1,183.66 | 5.32 | 23.33 |
| 1981 | 5,288.3 | 66,922.9 | 1,114.8 | 20,946.9 | 105.42 | 1,137.95 | 2.20 | 24.76 |
| 1982 | 5,000.6 | 71,923.5 | 1,085.8 | 22,032.7 | 105.73 | 1,175.10 | 2.40 | 26.75 |
| 1983 | 4,668.5 | 76,592.0 | 1,253.9 | 23,286.6 | 88.52 | 1,219.51 | 2.04 | 28.47 |
| 1984 | 5,066.8 | 81,658.7 | 746.0 | 24,032.6 | 155.67 | 1,343.43 | 1.32 | 29.51 |
| 1985 | 5,454.8 | 87,113.5 | 310.7 | 24,343.4 | 121.66 | 1,432.28 | 1.73 | 31.01 |
| 1986 | 5,355.7 | 92,469.2 | 378.2 | 24,721.6 | 115.83 | 1,505.28 | 1.32 | 32.05 |
| 1987 | 3,236.7 | 95,705.9 | 6,922.7 | 31,644.3 | 94.81 | 1,570.83 | 1.26 | 33.12 |
| 1988 | 2,636.8 | 98,342.6 | 298.1 | 31,942.4 | 56.13 | 1,590.06 | 0.98 | 33.87 |
| 1989 | 1,701.5 | 100,044.1 | 153,800.8 | 185,743.2 | 188.96 | 1,861.65 | 1.05 | 35.31 |
| 1990 | 1,398.4 | 101,442.5 | 4,834.8 | 190,578.0 | 49.01 | 1,871.57 | 0.63 | 35.69 |
| 1991 ^b | 1,773.1 | 103,215.6 | 6,631.3 | 197,209.4 | 41.42 | 1,878.20 | 0.62 | 36.09 |
| 1992 | 797.3 | 104,012.9 | 5,184.5 | 202,393.9 | 31.05 | 1,874.81 | 0.27 | 36.13 |
| 1993 | 1,476.1 | 105,489.0 | 127.9 | 202,521.8 | 22.86 | 1,860.07 | 0.26 | 36.16 |

^aMass means mass of radionuclides, not of total waste.

^bSRS CH waste data not available for individual years prior to 1991 but is included in totals for years 1991 and 1992.

Table 3.7. Retrievably stored TRUW inventories and decayed characteristics, total of all sites, TRU radionuclides only included^a

| End of calendar year | Volume (m ³) | | TRU mass ^b (kg) | | TRU radioactivity (10 ³ Ci) | | TRU thermal power (10 ³ W) | |
|----------------------------|-----------------------------|------------|-------------------------------|------------|---|------------|--|------------|
| | Annual | Cumulative | Annual | Cumulative | Annual | Cumulative | Annual | Cumulative |
| Contact handled | | | | | | | | |
| 1970 | 2,177.8 | 2,177.8 | 8.3 | 8.3 | 1.72 | 1.72 | 0.06 | 0.06 |
| 1971 | 8,955.7 | 11,133.4 | 39.3 | 47.6 | 219.37 | 221.09 | 7.26 | 7.31 |
| 1972 | 7,542.4 | 18,675.8 | 39.8 | 87.4 | 49.88 | 269.32 | 1.65 | 8.91 |
| 1973 | 7,120.4 | 25,796.2 | 40.0 | 127.4 | 12.09 | 279.51 | 0.39 | 9.24 |
| 1974 | 5,746.9 | 31,543.1 | 51.6 | 179.1 | 48.79 | 326.41 | 1.61 | 10.78 |
| 1975 | 6,887.8 | 38,430.9 | 77.6 | 256.7 | 28.46 | 352.69 | 0.93 | 11.64 |
| 1976 | 2,464.9 | 40,895.7 | 37.0 | 293.6 | 35.34 | 385.80 | 1.16 | 12.73 |
| 1977 | 5,651.9 | 46,547.6 | 64.6 | 358.2 | 41.65 | 425.01 | 1.37 | 14.02 |
| 1978 | 4,016.0 | 50,563.7 | 61.6 | 419.8 | 47.91 | 470.27 | 1.58 | 15.51 |
| 1979 | 5,421.1 | 55,984.7 | 122.8 | 542.6 | 53.31 | 520.67 | 1.75 | 17.16 |
| 1980 | 5,067.7 | 61,052.4 | 158.1 | 700.7 | 139.85 | 657.35 | 4.61 | 21.66 |
| 1981 | 5,255.1 | 66,307.5 | 154.4 | 855.0 | 65.52 | 718.78 | 2.15 | 23.68 |
| 1982 | 4,967.6 | 71,275.1 | 186.4 | 1,041.4 | 70.37 | 784.73 | 2.31 | 25.83 |
| 1983 | 4,634.3 | 75,909.3 | 165.0 | 1,206.4 | 61.74 | 841.67 | 2.02 | 27.70 |
| 1984 | 5,045.9 | 80,955.2 | 218.4 | 1,424.8 | 40.19 | 876.73 | 1.30 | 28.83 |
| 1985 | 5,438.2 | 86,393.5 | 242.6 | 1,667.4 | 50.93 | 922.56 | 1.65 | 30.31 |
| 1986 | 5,337.0 | 91,730.5 | 234.6 | 1,902.0 | 37.81 | 955.15 | 1.22 | 31.35 |
| 1987 | 3,147.9 | 94,878.3 | 155.7 | 2,057.7 | 37.04 | 986.94 | 1.20 | 32.38 |
| 1988 | 2,631.6 | 97,509.9 | 288.6 | 2,346.4 | 30.59 | 1,012.20 | 0.97 | 33.17 |
| 1989 | 1,698.2 | 99,208.1 | 221.0 | 2,567.4 | 20.63 | 1,027.47 | 0.65 | 33.65 |
| 1990 | 1,386.4 | 100,594.4 | 199.7 | 2,767.1 | 19.17 | 1,041.30 | 0.61 | 34.08 |
| 1991 ^c | 1,717.2 | 102,311.7 | 142.7 | 2,909.8 | 18.89 | 1,054.86 | 0.60 | 34.50 |
| 1992 | 361.4 | 102,673.0 | 52.5 | 2,962.3 | 7.69 | 1,057.21 | 0.25 | 34.57 |
| 1993 | 1,442.8 | 104,115.9 | 95.1 | 3,057.3 | 6.12 | 1,058.01 | 0.20 | 34.61 |
| Remote handled | | | | | | | | |
| 1970 | 12.0 | 12.0 | 0.3 | 0.3 | 0.02 | 0.02 | 0.00 | 0.00 |
| 1971 | 15.9 | 27.8 | 0.2 | 0.5 | 0.02 | 0.05 | 0.00 | 0.00 |
| 1972 | 94.9 | 122.8 | 1.1 | 1.6 | 0.09 | 0.14 | 0.00 | 0.00 |
| 1973 | 59.8 | 182.5 | 0.3 | 1.9 | 0.03 | 0.17 | 0.00 | 0.01 |
| 1974 | 41.1 | 223.6 | 0.2 | 2.1 | 0.01 | 0.19 | 0.00 | 0.01 |
| 1975 | 125.7 | 349.3 | 0.3 | 2.4 | 0.03 | 0.22 | 0.00 | 0.01 |
| 1976 | 76.6 | 425.9 | 0.5 | 2.9 | 0.05 | 0.27 | 0.00 | 0.01 |

Table 3.7 (continued)

| End of calendar year | Volume (m ³) | | TRU mass ^b (kg) | | TRU radioactivity (10 ³ Ci) | | TRU thermal power (10 ³ W) | |
|----------------------------|-----------------------------|------------|-------------------------------|------------|---|------------|--|------------|
| | Annual | Cumulative | Annual | Cumulative | Annual | Cumulative | Annual | Cumulative |
| Remote handled (continued) | | | | | | | | |
| 1977 | 56.6 | 482.5 | 0.6 | 3.5 | 0.06 | 0.33 | 0.00 | 0.01 |
| 1978 | 49.4 | 531.9 | 0.5 | 4.0 | 0.04 | 0.37 | 0.00 | 0.01 |
| 1979 | 23.1 | 555.0 | 1.1 | 5.1 | 0.09 | 0.47 | 0.00 | 0.01 |
| 1980 | 27.1 | 582.1 | 0.5 | 5.6 | 0.04 | 0.52 | 0.00 | 0.02 |
| 1981 | 33.2 | 615.4 | 0.7 | 6.3 | 0.05 | 0.58 | 0.00 | 0.02 |
| 1982 | 33.1 | 648.4 | 0.4 | 6.7 | 0.03 | 0.62 | 0.00 | 0.02 |
| 1983 | 34.2 | 682.6 | 0.6 | 7.3 | 0.07 | 0.70 | 0.00 | 0.02 |
| 1984 | 20.8 | 703.5 | 0.4 | 7.7 | 0.03 | 0.74 | 0.00 | 0.02 |
| 1985 | 16.5 | 720.0 | 0.2 | 7.9 | 0.01 | 0.76 | 0.00 | 0.02 |
| 1986 | 18.8 | 738.8 | 0.2 | 8.0 | 0.01 | 0.78 | 0.00 | 0.02 |
| 1987 | 88.8 | 827.6 | 0.7 | 8.7 | 0.13 | 0.92 | 0.00 | 0.03 |
| 1988 | 5.2 | 832.8 | 0.2 | 8.9 | 0.02 | 0.95 | 0.00 | 0.03 |
| 1989 | 3.3 | 836.1 | 2.5 | 11.4 | 0.88 | 1.84 | 0.03 | 0.06 |
| 1990 | 12.0 | 848.1 | 0.1 | 11.5 | 0.08 | 1.91 | 0.00 | 0.06 |
| 1991 | 55.9 | 903.9 | 0.1 | 11.6 | 0.04 | 1.95 | 0.00 | 0.06 |
| 1992 | 435.9 | 1,339.9 | 0.1 | 11.7 | 0.03 | 1.97 | 0.00 | 0.06 |
| 1993 | 33.3 | 1,373.2 | 2.2 | 13.9 | 0.13 | 2.10 | 0.00 | 0.07 |
| Total | | | | | | | | |
| 1970 | 2,189.7 | 2,189.7 | 8.5 | 8.5 | 1.74 | 1.74 | 0.06 | 0.06 |
| 1971 | 8,971.5 | 11,161.3 | 39.5 | 48.1 | 219.39 | 221.13 | 7.26 | 7.32 |
| 1972 | 7,637.3 | 18,798.5 | 40.9 | 89.0 | 49.97 | 269.46 | 1.65 | 8.91 |
| 1973 | 7,180.2 | 25,978.7 | 40.4 | 129.4 | 12.12 | 279.69 | 0.40 | 9.24 |
| 1974 | 5,788.0 | 31,766.7 | 51.8 | 181.2 | 48.80 | 326.60 | 1.61 | 10.79 |
| 1975 | 7,013.5 | 38,780.2 | 77.9 | 259.1 | 28.48 | 352.91 | 0.93 | 11.65 |
| 1976 | 2,541.5 | 41,321.6 | 37.5 | 296.6 | 35.39 | 386.07 | 1.17 | 12.74 |
| 1977 | 5,708.5 | 47,030.1 | 65.2 | 361.7 | 41.71 | 425.34 | 1.37 | 14.03 |
| 1978 | 4,065.4 | 51,095.6 | 62.0 | 423.8 | 47.96 | 470.65 | 1.58 | 15.52 |
| 1979 | 5,444.2 | 56,539.7 | 123.9 | 547.7 | 53.40 | 521.14 | 1.75 | 17.18 |
| 1980 | 5,094.8 | 61,634.5 | 158.6 | 706.3 | 139.89 | 657.87 | 4.61 | 21.68 |
| 1981 | 5,288.3 | 66,922.9 | 155.1 | 861.3 | 65.57 | 719.37 | 2.15 | 23.69 |
| 1982 | 5,000.6 | 71,923.5 | 186.8 | 1,048.1 | 70.41 | 785.35 | 2.31 | 25.85 |
| 1983 | 4,668.5 | 76,592.0 | 165.6 | 1,213.7 | 61.81 | 842.37 | 2.02 | 27.72 |

Table 3.7 (continued)

| End of calendar year | Volume (m ³) | | TRU mass ^b (kg) | | TRU radioactivity (10 ³ Ci) | | TRU thermal power (10 ³ W) | |
|----------------------------|-----------------------------|------------|-------------------------------|------------|---|------------|--|------------|
| | Annual | Cumulative | Annual | Cumulative | Annual | Cumulative | Annual | Cumulative |
| Total (continued) | | | | | | | | |
| 1984 | 5,066.8 | 81,658.7 | 218.8 | 1,432.5 | 40.22 | 877.47 | 1.30 | 28.85 |
| 1985 | 5,454.8 | 87,113.5 | 242.8 | 1,675.3 | 50.95 | 923.32 | 1.65 | 30.33 |
| 1986 | 5,355.7 | 92,469.2 | 234.7 | 1,910.0 | 37.82 | 955.93 | 1.22 | 31.37 |
| 1987 | 3,236.7 | 95,705.9 | 156.4 | 2,066.4 | 37.17 | 987.86 | 1.21 | 32.41 |
| 1988 | 2,636.8 | 98,342.6 | 288.8 | 2,355.3 | 30.61 | 1,013.15 | 0.97 | 33.20 |
| 1989 | 1,701.5 | 100,044.1 | 223.5 | 2,578.8 | 21.51 | 1,029.31 | 0.68 | 33.71 |
| 1990 | 1,398.4 | 101,442.5 | 199.8 | 2,778.6 | 19.24 | 1,043.21 | 0.61 | 34.14 |
| 1991 ^c | 1,773.1 | 103,215.6 | 142.8 | 2,921.4 | 18.93 | 1,056.80 | 0.60 | 34.57 |
| 1992 | 797.3 | 104,012.9 | 52.5 | 2,973.9 | 7.72 | 1,059.18 | 0.25 | 34.64 |
| 1993 | 1,476.1 | 105,489.0 | 97.2 | 3,071.2 | 6.25 | 1,060.11 | 0.20 | 34.68 |

^aRadioactive daughters of TRU radionuclides are not included.

^bTRU mass means mass of TRU radionuclides, not of total waste.

^cSRS CH waste data not available for individual years prior to 1991 but is included in totals for years 1991 and 1992.

Table 3.8. Summary of buried TRUW by sites: cumulative as-stored volumes

| Site name | Site acronym | Cumulative volume at end of calendar year, m ³ | | | | | | | | | |
|---|--------------|---|-------|--------|--------|--------|---------|---------|---------|---------|---------------------|
| | | 1945 | 1950 | 1955 | 1960 | 1965 | 1970 | 1975 | 1980 | 1985 | 1993 |
| Argonne National Laboratory-East | ANL-E | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Energy Technology Engineering Center | ETEC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hanford Site | HANF | 779 | 6,159 | 16,333 | 35,509 | 47,932 | 63,624 | 63,629 | 63,629 | 63,629 | 63,629 ^a |
| Idaho National Engineering Laboratory | INEL | 0 | 0 | 1,789 | 10,539 | 26,299 | 57,119 | 57,119 | 57,119 | 57,119 | 57,119 |
| Knolls Atomic Power Laboratory | KAPL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lawrence Berkeley Laboratory | LBL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lawrence Livermore National Laboratory | LLNL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Los Alamos National Laboratory | LANL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mound | MOUND | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nevada Test Site | NTS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Oak Ridge National Laboratory | ORNL | 0 | 0 | c | c | c | 41 | 176 | 176 | 176 | 176 |
| Paducah Gaseous Diffusion Plant | PAD | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rocky Flats Plant | RFP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sandia National Laboratory/ New Mexico | SNL/NM | 0 | 0 | 0 | 0.14 | 0.85 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 |
| Savannah River Site | SRS | b | b | b | b | b | b | 4,874 | 4,874 | 4,874 | 4,874 |
| West Valley Demonstration Project | WVDP | 0 | 0 | 0 | 0 | 0 | 709 | 1,353 | 1,353 | 1,353 | 1,353 |
| Total ^d | | 779 | 6,159 | 18,122 | 46,048 | 74,232 | 121,494 | 127,152 | 127,152 | 127,152 | 127,152 |

^aReference 4 states that upon retrieval of this waste, a significant amount of the soil will become contaminated and will increase the volume of waste. The estimated waste and associated contaminated soil volume is 109,000 m³. Quantities shown for Hanford are based on their submittal of Aug. 30, 1993.

^bNo year-by-year breakdown available for these years. SRS shows 4,874 m³ as the total volume buried from 1952 through 1974.

^cUnknown amounts were buried prior to 1970 and are not included in totals.

^dTotals do not include approximately 9,500 m³ of TRUW injected by hydrofracture at ORNL. This was included in last year's totals.

Table 3.9. Summary of buried TRUW by sites: cumulative as-stored radioactivity (all radionuclides)

| Site name | Site acronym | Cumulative as-stored radioactivity at end of calendar year, 10 ³ Ci | | | | | | | | | |
|---|--------------|--|-------|--------|--------|--------|----------|----------|----------|----------|----------|
| | | 1945 | 1950 | 1955 | 1960 | 1965 | 1970 | 1975 | 1980 | 1985 | 1993 |
| Argonne National Laboratory--East | ANL-E | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy Technology Engineering Laboratory | ETEC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hanford Site ^a | HANF | 0.56 | 13.89 | 170.14 | 231.13 | 242.85 | 601.02 | 601.67 | 601.68 | 601.68 | 601.68 |
| Idaho National Engineering Laboratory | INEL | 0.00 | 0.00 | b | 11.20 | 58.33 | 248.83 | 248.83 | 248.83 | 248.83 | 248.83 |
| Knolls Atomic Power Laboratory | KAPL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Berkeley Laboratory | LBL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Livermore National Laboratory | LLNL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Alamos National Laboratory | LANL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mound | MOUND | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada Test Site | NTS | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oak Ridge National Laboratory | ORNL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.24 | 0.24 | 0.24 | 0.24 |
| Paducah Gaseous Diffusion Plant | PAD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rocky Flats Plant | RFP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sandia National Laboratory/ New Mexico | SNL/NM | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Savannah River Site | SRS | c | c | c | c | c | c | 33.67 | 33.67 | 33.67 | 33.67 |
| West Valley Demonstration Project | WVDP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 438.00 | 652.00 | 652.00 | 652.00 | 652.00 |
| Total ^d | | 0.56 | 13.89 | 170.14 | 242.33 | 301.18 | 1,287.86 | 1,536.41 | 1,536.42 | 1,536.42 | 1,536.42 |

^aData for HANF are based on their submittal of Aug. 30, 1993 (Rev. 9 IDB data).

^bUnknown.

^cSRS data submittal showed 33,670 Ci of TRU radionuclides buried from 1952 through 1974. The curies of fission products and other non-TRU radionuclides associated with this waste were listed as unknown.

^dDoes not include about 680,000 Ci deposited by hydrofracture at ORNL. Last year's table included this material.

Table 3.10. Summary of buried TRUW by sites: cumulative as-stored radioactivity (TRU radionuclides only)

| Site name | Site acronym | Cumulative as-stored radioactivity at end of calendar year, 10 ³ Ci | | | | | | | | | |
|---|-------------------|--|------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | 1945 | 1950 | 1955 | 1960 | 1965 | 1970 | 1975 | 1980 | 1985 | 1993 |
| Argonne National Laboratory--East | ANL-E | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy Technology Engineering Laboratory | ETEC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hanford Site | HANF | 0.10 | 2.37 | 103.41 | 110.90 | 112.64 | 114.45 | 114.45 | 114.45 | 114.45 | 114.45 |
| Idaho National Engineering Laboratory | INEL | a | a | a | a | a | a | a | a | a | a |
| Knolls Atomic Power Laboratory | KAPL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Berkeley Laboratory | LBL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Livermore National Laboratory | LLNL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Alamos National Laboratory | LANL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mound | MOUND | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada Test Site | NTS | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oak Ridge National Laboratory | ORNL ^b | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.10 | 0.10 | 0.10 | 0.10 |
| Paducah Gaseous Diffusion Plant | PAD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rocky Flats Plant | RFP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sandia National Laboratory/ New Mexico | SNL/NM | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Savannah River Site | SRS | c | c | c | c | c | c | 33.67 | 33.67 | 33.67 | 33.67 |
| West Valley Demonstration Project | WVDP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 438.00 | 652.00 | 652.00 | 652.00 | 652.00 |
| Total | | 0.10 | 2.37 | 103.41 | 110.90 | 112.64 | 114.46 | 148.22 | 148.22 | 148.22 | 148.22 |

^aINEL did not give isotopic compositions, so radioactivity for TRU radionuclides cannot be determined. See Table 3.9 for data on a total radioactivity basis.

^bQuantities shown for ORNL include ²⁴⁴Cm, which is considered a TRU radionuclide at ORNL. If ²⁴⁴Cm is omitted, the totals are reduced by 0.08 10³ Ci/year.

^cSRS did not give data on a year-by-year basis. Cumulative curies from 1952 through 1974 were given for TRU radionuclides only.

Table 3.11. Summary of buried TRUW by sites: decayed radioactivity (all radionuclides)

| Site name | Site acronym | Cumulative radioactivity at end of calendar year, 10 ³ Ci | | | | | | | | | |
|---|--------------|--|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | 1945 | 1950 | 1955 | 1960 | 1965 | 1970 | 1975 | 1980 | 1985 | 1993 |
| Argonne National Laboratory--East | ANL-E | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy Technology Engineering Laboratory | ETEC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hanford Site | HANF | 0.56 | 13.40 | 161.70 | 189.75 | 177.37 | 452.07 | 308.59 | 256.77 | 218.37 | 173.41 |
| Idaho National Engineering Laboratory | INEL | a | a | a | a | a | a | a | a | a | a |
| Knolls Atomic Power Laboratory | KAPL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Berkeley Laboratory | LBL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Livermore National Laboratory | LLNL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Alamos National Laboratory | LANL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mound | MOUND | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada Test Site | NTS | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oak Ridge National Laboratory | ORNL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 23.22 | 20.67 | 660.96 | 543.20 |
| Paducah Gaseous Diffusion Plant | PAD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rocky Flats Plant | RFP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sandia National Laboratory/ New Mexico | SNL/NM | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Savannah River Site | SRS | b | b | b | b | b | b | 33.67 | 32.60 | 31.70 | 30.50 |
| West Valley Demonstration Project | WVDP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | | 0.56 | 13.40 | 161.70 | 189.75 | 177.37 | 452.08 | 365.48 | 310.04 | 911.03 | 747.11 |

^aINEL data did not include any isotopic compositions, so no decay calculations could be made.

^bSRS gave cumulative radioactivity as of 1974 on an as-stored basis for TRU radionuclides only. The reduction in activity shown from 1975 through 1993 is essentially all due to the decay of ²³⁸Pu.

Table 3.12. Summary of buried TRUW by sites: decayed radioactivity (TRU radionuclides only)

| Site name | Site acronym | Cumulative radioactivity at end of calendar year, 10 ³ Ci | | | | | | | | | |
|---|--------------|--|------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | 1945 | 1950 | 1955 | 1960 | 1965 | 1970 | 1975 | 1980 | 1985 | 1993 |
| Argonne National Laboratory--East | ANL-E | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy Technology Engineering Laboratory | ETEC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hanford Site | HANF | 0.10 | 2.38 | 102.95 | 107.53 | 106.50 | 105.61 | 102.95 | 100.32 | 97.72 | 93.80 |
| Idaho National Engineering Laboratory | INEL | a | a | a | a | a | a | a | a | a | a |
| Knolls Atomic Power Laboratory | KAPL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Berkeley Laboratory | LBL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lawrence Livermore National Laboratory | LLNL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Alamos National Laboratory | LANL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mound | MOUND | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada Test Site | NTS | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oak Ridge National Laboratory | ORNL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.02 | 0.02 |
| Paducah Gaseous Diffusion Plant | PAD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rocky Flats Plant | RFP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sandia National Laboratory/ New Mexico | SNL/NM | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Savannah River Site | SRS | b | b | b | b | b | b | 33.67 | 32.60 | 31.70 | 30.50 |
| West Valley Demonstration Project | WVDP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | | 0.10 | 2.38 | 102.95 | 107.53 | 106.50 | 105.61 | 136.64 | 132.94 | 129.44 | 124.32 |

^aNo data available.

^bSRS gave radioactivity data on a cumulative basis as of 1974. Data after 1974 are the same as in Table 3.11 because SRS gave radioactivity of buried waste for TRU radionuclides only.

Table 3.13. Volumes and radioactivities of TRU-contaminated soil

| Site | Soil contaminated with solid TRUW | | Soil contaminated with liquid TRUW | |
|--------|--------------------------------------|-----------------------|---------------------------------------|-----------------------|
| | Volume (m ³) | Radioactivity (Ci) | Volume (m ³) | Radioactivity (Ci) |
| ANL-E | 0 | 0 | 0 | 0 |
| ETEC | 0 | 0 | 0 | 0 |
| HANF | a | a | 32,000 | 80,591 |
| INEL | b | b | b | b |
| KAPL | 0 | 0 | 0 | 0 |
| LANL | c | d | c | d |
| LBL | 0 | 0 | 0 | 0 |
| LLNL | 0 | 0 | 0 | 0 |
| MOUND | c | c | c | c |
| NTS | c | c | b | b |
| ORNL | c | c | c | c |
| PAD | b | b | b | b |
| RFP | 2 | 40 | b | b |
| SNL/NM | c | c | c | c |
| SRS | 0 | 0 | 0 | 0 |
| WVDP | c | c | c | c |

^aIncluded in buried TRUW.

^bListed in submittal as N/A (not applicable).

^cUnknown.

^dPartial data submitted.

^eNo data submitted.

Table 3.14. Mixed TRUW volumes^a

| Site | Category | Mixed CH TRU volume, m ³ | | | Mixed RH TRU volume, m ³ | | |
|---------------------|---------------|-------------------------------------|-----------|------|-------------------------------------|-----------|------|
| | | 1970-1986 | 1987-1993 | 1994 | 1970-1986 | 1987-1993 | 1994 |
| AMES | Mixed | 0 | 0 | 0 | 0 | 0 | 0 |
| | Suspect mixed | 0 | 0 | 0.3 | 0 | 0 | 0 |
| ANL-E | Mixed | b | | 0 | b | | 0 |
| | Suspect mixed | b | | 0 | b | | 0 |
| BAPL ^c | | | | | | | |
| ETEC | Mixed | 0 | 0.2 | 0 | 0 | 0 | 0 |
| | Suspect mixed | 0 | 0 | 0 | 0 | 0 | 0 |
| HANF | Mixed | 0 | 170.6 | 5.9 | 0 | 1.4 | 27.1 |
| | Suspect mixed | 193 | 0 | 0 | 4.46 | 0 | 0 |
| INEL | Mixed | 36,400 | 2,420 | 0 | 29.9 | 17.5 | 0 |
| | Suspect mixed | 0 | 0 | 0 | 0 | 7.4 | 0 |
| KAPL ^d | | | | | | | |
| LANL ^e | Mixed | 0 | 619.1 | 225 | 0 | 0 | 10 |
| | Suspect mixed | 6,796.3 | 0 | 0 | 2.10 | 0 | 0 |
| LBL ^f | | | | | | | |
| LLNL | Mixed | b | 7.93 | 0.62 | 0 | 0 | 0 |
| | Suspect mixed | b | 0 | 0 | 0 | 0 | 0 |
| MOUND ^e | Mixed | 0 | 1,020 | 0 | | | |
| | Suspect mixed | | | | | | |
| MURR | Mixed | 0 | 0.06 | 0.02 | 0 | 0 | 0 |
| NTS | Mixed | 570 | 1.9 | 0 | 5.3 | 0 | 0 |
| | Suspect mixed | | | | | | |
| ORNL | Mixed | 176 | 6.8 | 62.5 | 231 | 26.2 | 8.3 |
| | Suspect mixed | 752 | 110 | d | 225 | 9.8 | 0 |
| PAD ^e | Mixed | 4.34 | g | g | g | g | g |
| | Suspect mixed | | | | | | |
| RFP ^h | Mixed | 110 | 773 | 23 | g | g | g |
| | Suspect mixed | b | g | g | g | g | g |
| SNL/NM ⁱ | Mixed | b | 0 | 0 | 0 | 0 | 0 |
| | Suspect mixed | 0 | 0 | 0 | 0 | 0 | 0 |
| SRS | Mixed | 0 | 166.9 | 55.1 | b | b | 0 |
| | Suspect mixed | 4,805 | 1,440 | 0 | b | b | 0 |

Table 3.14 (continued)

| Site | Category | Mixed CH TRU volume, m ³ | | | Mixed RH TRU volume, m ³ | | |
|------|---------------|-------------------------------------|-----------|------|-------------------------------------|-----------|------|
| | | 1970-1986 | 1987-1993 | 1994 | 1970-1986 | 1987-1993 | 1994 |
| WVDP | Mixed | 2.08 | 0 | 0 | 0 | 0 | 0 |
| | Suspect mixed | 9.78 | 20.0 | b | 10.5 | 0 | 0 |

^aCompiled from Table 4 of site submittals. The quantities shown in each column represent the total volume of a given waste type generated during the period indicated at the top of the column.

^bUnknown.

^cNo data submitted for this table.

^dKAPL estimated their TRUW contains about 10% LLW and 5% mixed waste.

^eData are from previous submittal for Rev. 9 IDB report.

^fLBL reports that they do not generate or store TRU mixed waste.

^gNot applicable.

^hThere is no remote-handled TRUW at RFP.

ⁱSNL/NM appended the following notes to their Table 4 submittal:

1. Includes only TRU waste included in SNL/NM's Disposal Request process.
2. With regard to instruction footnote c of Table 4: TRU material, which may be mixed and may be remote-handled material, is in storage in Technical Area V (TA-V) and the Manzano Site Structures. The years the material was generated or placed in storage is unknown. The material in TA-V is approximately 1 m³ and is listed in the 180-day report, although it may not be categorized as waste under SNL/NM policy current at the time of this report. A recent inventory found two 55-gal containers of TRU material in the Manzanos, one contact-handled and one remote-handled. The material may be mixed and also may not yet be officially categorized as waste. None of this Manzano material was included in TRU estimates for the 180-day report. There is no activity information for the material at TA-V or the Manzanos. The TRU material at TA-V and the Manzanos has not been entered into the Disposal Request process. To be consistent with SNL/NM's approach for input into this report, no material that has not been entered into the Disposal Request process is included in the values listed in Table 4, "Mixed TRU waste and non-mixed TRU waste volumes (m³)."
3. The estimated waste generation for 1993 for environmental restoration waste containing TRU contaminated with RCRA constituents was estimated in Table 2-4, "Projection of mixed waste to be generated by DOE environmental restoration activities (in cubic meters)," Volume 1: *U.S. Department of Energy Interim Mixed Waste Inventory Report: Waste Streams, Treatment Capacities, and Technologies*, DOE/NBM-1100, April 1993, as being 1 m³. A more recent estimate puts 1993 CH TRU mixed (RCRA) environmental restoration waste generation at zero. (See Table 5, "Future generated TRU solid waste volumes—average annual.") The amount of TRU mixed operational or D&D waste in 1993 is unknown. Therefore, the volume of CH TRU waste contaminated with RCRA constituents in 1993 is unknown.
4. The amount of contact-handled non-mixed TRU waste to be generated by Dec. 31, 1993, is unknown.
5. An unknown amount of remote-handled non-mixed TRU waste has been generated in 1993 to date and it is not known what additional amounts will be generated by Dec. 31, 1993.

Table 3.15. Projected future TRUW volumes generated annually^a

| Site | Waste type | Projected volumes generated, m ³ /year | | | | | | |
|-------------------|------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| | | 1994 | 1995-1996 | 1997-2000 | 2001-2005 | 2006-2010 | 2011-2015 | 2016-2020 |
| AMES | CH | 0.03 | 0.03 | b | b | b | b | b |
| | RH | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANL-E | CH | 12.8 | 12.8 | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 |
| | RH | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 |
| BAPL | CH | 0 | 13.3 | 18.1 | 4.9 | 0 | 0 | 0 |
| | RH | 0 | 0.26 | 0.18 | 0.06 | 0 | 0 | 0 |
| ETEC | CH | 0 | 5.2 | 0 | 0 | 0 | 0 | 0 |
| | RH | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| HANF ^c | CH | 169 | 484 | 224 | 1,182 | 1,417 | 1,417 | 1,417 |
| | RH | 29 | 161 | 149 | 1,394 | 2,221 | 2,221 | 2,221 |
| INEL | CH | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | RH | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| KAPL | CH | d | d | d | d | d | d | d |
| | RH | 0.6 | 0.6 | 0.8 | 1.0 | 1.0 | 1.0 | 1.0 |
| LANL | CH | 425 | 425 | 550 | 550 | 550 | 550 | 550 |
| | RH | 20 | 10 | 10 | 10 | 10 | 10 | 10 |
| LBL | CH | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | RH | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LLNL | CH | 24.6 | 93 | 93 | 93 | 93 | 93 | 93 |
| | RH | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MOUND | CH | d | d | d | d | d | d | d |
| | RH | d | d | d | d | d | d | d |
| NTS | CH | b | b | b | b | b | b | b |
| | RH | b | b | b | b | b | b | b |
| ORNL | CH | 63.5 | 55 | 20.3 | 20 | 20 | 20 | 20 |
| | RH | 8.3 | 25 | 25 | 20 | 12.4 | 12.4 | 12 |
| PAD | CH | d | d | d | d | d | d | d |
| | RH | d | d | d | d | d | d | d |
| RFP | CH | 58.2 | 112.2 | 27.2 | 68.8 | 215 | 212 | 179 |
| | RH | e | e | e | e | e | e | e |
| SNL/NM | CH | 0 | 6 | 1 | 1 | 1 | 1 | 1 |
| | RH | e | e | e | e | e | e | e |
| SRS ^f | CH | 636 | 719 | 2,057 | 2,572 | 2,572 | 2,572 | 2,572 |
| | RH | 2.6 | 2.6 | 5.1 | 6.4 | 6.4 | 6.4 | 6.4 |

Table 3.15 (continued)

| Site | Waste type | Projected volumes generated, m ³ /year | | | | | | |
|------|------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| | | 1994 | 1995-1996 | 1997-2000 | 2001-2005 | 2006-2010 | 2011-2015 | 2016-2020 |
| WVDP | CH | b | b | b | b | b | b | b |
| | RH | b | b | b | b | b | b | b |

^aCompiled from Table 5 of site submittals.

^bUnknown.

^cQuantities are based on Hanford submittal to WIPP Baseline Inventory Report.

^dNo estimates given.

^eNo RH waste at this site.

^fD&D and remedial action waste unknown in all periods.

APPENDIX J

WEST VALLEY DEMONSTRATION PROJECT (WV) WASTE STREAM PROFILES

The following modifications were made by the WTWBIR team in developing the WV waste stream profiles:

- WV Final Waste Form Groups were modified to be consistent with the nomenclature used in the WTWBID. These changes included word and spelling changes. The assigned Final Waste Form Groups are consistent with the information provided by WV.
- The number of containers were corrected based on the volumes reported by WV.
- The volumes for the year 1993 were changed from an annual rate of generation (m^3/year) to a cumulative value (m^3).
- Total volumes were reported for the years 1998-2002 and 2003-2022. These were changed to volume per year.
- WV reported the projected volumes of some waste streams as "unknown" (UNK). Since numeric values are required in these fields, these entries were replaced with zeros.
- For the waste stream WV-T016, the SWB containers reported by the site were replaced by RH canisters.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **WV**

| | | | | |
|--------------------------------|---|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Filters |
| | WIPP ID | WV-M005 | | |
| | Local ID | N/A | DESCRIPTION | Filters generated from normal site operations. |
| MATRIX CODE | | 5410 | | |
| SITE FINAL FORM IDC | | WV-LAG.1* | | |
| Waste Matrix Code Group | Filter | | | |
| Site Matrix Description | This waste stream consists of filters generated from normal site operations. The specific contents include pre-filters, High Efficiency Particulate Air (HEPA) filters, and roughing filters. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **WV**

WV-M005

CONTAINER: WVDP Standard Waste Box
Type/Size: 60 ft³

Container Matl: Carbon steel
Int. Vol/Ctnr: 1.7 m³

Liner Type: none
Liner Material:

Number Stored:
Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m³)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|-------------------------|
| End of 1992: | 19.0 | 19.0 m ³ |
| End of 1993: | 19.0 | 19.0 m ³ |
| 1994: | 43.6 | 43.6 m ³ /yr |
| 1995: | 23.8 | 23.8 m ³ /yr |
| 1996: | 0.8 | 0.8 m ³ /yr |
| 1997: | 0.8 | 0.8 m ³ /yr |
| 1998-2002: | 12.5 | 12.5 m ³ /yr |
| 2003-2022: | 0.0 | 0.0 m ³ /yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|------------|-----------------------|
| Cs137 | Curies/m ³ |
| Ba137m | Curies/m ³ |
| Sr90 | Curies/m ³ |
| Y90 | Curies/m ³ |
| Pu(unspec) | Curies/m ³ |
| Am241 | Curies/m ³ |
| U(unspec) | Curies/m ³ |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste stream represents 2-90ft³ and 7-70ft³ boxes currently stored in the Lag Storage Building.

As a result of the development of the Historical Waste Report (HWR) in support of the Federal and State Facility Compliance Agreement (FSFCA), these wastes were identified as radiologically contaminated but require further evaluation to perform a complete hazardous characterization.

The typical waste material weights (kg/m³) are not available for this waste stream.

Typical activity (curies/m³) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WV

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE WV

| | | | | |
|--------------------------------|--|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU General Waste (Unclassified) |
| | WIPP ID | WV-M007 | | |
| | Local ID | N/A | DESCRIPTION | General site waste requiring hazardous characterization generated from normal site operations. |
| MATRIX CODE | | 8900 | | |
| SITE FINAL FORM IDC | | WV-LAG.3* | | |
| Waste Matrix Code Group | Unknown | | | |
| Site Matrix Description | This waste stream consists of unclassified (i.e., requires hazardous characterization) general site waste generated from normal site operations. The specific contents of this waste stream are unknown. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☐
☐
☒
☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☐
☒
☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☐
☒
☐
☐
☐
☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
☐
☐
☒
☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **WV**

WV-M007

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: Carbon steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: none

Liner Material:

Number Stored: 48

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 10.0 | 10.0 m3 |
| End of 1993: | 10.0 | 10.0 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|------------|-----------|
| Cs137 | Curies/m3 |
| Ba137M | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |
| Pu(unspec) | Curies/m3 |
| Am241 | Curies/m3 |
| U(unspec) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste stream represents 48 55-gallon drums currently stored in the Lag Storage Building.

As a result of the development of the Historical Waste Report (HWR) in support of the Federal and State Facility Compliance Agreement (FSFCA), these wastes were identified as radiologically contaminated but require further evaluation to perform a complete hazardous characterization.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **WV**

| | | | | |
|--------------------------------|--|-----------|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Concrete |
| | WIPP ID | WV-M008 | | |
| | Local ID | N/A | DESCRIPTION | Concrete samples generated from the on-site Analytical & Process Chemistry (A&PC) laboratory. |
| MATRIX CODE | | 3150 | | |
| SITE FINAL FORM IDC | | WV-LAG.4* | | |
| Waste Matrix Code Group | Solidified Inorganics | | | |
| Site Matrix Description | This waste stream consists of samples solidified with cement generated from the on-site A&PC laboratory. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☐
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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
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☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **WV**

WV-M008

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **Carbon steel**

Liner Type: **none**

Number Stored: **1**

Int. Vol/Ctnr: **0.208 m3**

Liner Material:

Number Projected: **0**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|------------|-----------|
| Cs137 | Curies/m3 |
| Ba137m | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |
| Pu(unspec) | Curies/m3 |
| Am241 | Curies/m3 |
| U(unspec) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste stream represents 1 55-gallon drum currently stored in the Lag Storage Building.

As a result of the development of the Historical Waste Report (HRW) in support of the Federal and State Facility Compliance Agreement (FSFCA), these wastes were identified as radiologically contaminated but require further evaluation to perform a complete hazardous characterization.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **WV**

| | | | | |
|--------------------------------|---|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Spent Absorbents |
| | WIPP ID | WV-M010 | | |
| | Local ID | N/A | DESCRIPTION | Spent absorbents generated from site operations. |
| MATRIX CODE | | 3190 | | |
| SITE FINAL FORM IDC | | WV-LAG.6* | | |
| Waste Matrix Code Group | Solidified Inorganics | | | |
| Site Matrix Description | This waste stream consists of spent absorbents generated from site operations. The media absorbed is not known for this waste stream. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☐
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☐

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☐
☐
☒
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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☐
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☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

☐
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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **WV**

WV-M010

CONTAINER: Drum
Type/Size: 55-gallon

Container Matl: Carbon steel
Int. Vol/Ctnr: 0.208 m3

Liner Type: none
Liner Material:

Number Stored: 2
Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.4 m3 |
| End of 1993: | 0.4 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|------------|-----------|
| Cs137 | Curies/m3 |
| Ba137m | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |
| Pu(unspec) | Curies/m3 |
| Am241 | Curies/m3 |
| U(unspec) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste stream represents 2 55-gallon drums currently stored in the Lag Storage Building.

As a result of the development of the Historical Waste Report (HWR) in support of the Federal and State Facility Compliance Agreement (FSFCA), these wastes were identified as radiologically contaminated but require further evaluation to perform a complete hazardous characterization.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WV

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE WV

| | | | | |
|--------------------------------|--|-----------|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Glove Boxes (Unclassified) |
| | WIPP ID | WV-M012 | | |
| | Local ID | N/A | DESCRIPTION | Glove boxes and general waste requiring hazardous evaluation generated from previous decommissioning and decontamination activities and normal site operations. |
| MATRIX CODE | | 8900 | | |
| SITE FINAL FORM IDC | | WV-LAG.8* | | |
| Waste Matrix Code Group | Unknown | | | |
| Site Matrix Description | This waste stream consists of a glove box and general waste generated from the laboratory on-site as a result of previous decommissioning and decontamination activities and normal site operations. The specific contents represented by the "general waste" are not known. This radiologically contaminated waste stream requires further evaluation to complete the hazardous characterization. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **WV**

WV-M012

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **Carbon steel**

Liner Type: **none**

Int. Vol/Ctnr: **0.208 m3**

Liner Material:

Number Stored: **1**

Number Projected: **0**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|------------|-----------|
| Cs137 | Curies/m3 |
| Ba137m | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |
| Pu(unspec) | Curies/m3 |
| Am241 | Curies/m3 |
| U(unspec) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste stream represents 1 55-gallon drum currently stored in the Lag Storage Building.

As a result of the development of the Historical Waste Report (HWR) in support of the Federal and State Facility Compliance Agreement (FSFCA), these wastes were identified as radiologically contaminated but require further evaluation to perform a complete hazardous characterization.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **WV**

| | | | | |
|--------------------------------|---|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Sweeping Compound |
| | WIPP ID | WV-M013 | | |
| | Local ID | N/A | DESCRIPTION | Grid and floor debris generated from normal site operations. |
| MATRIX CODE | | 3190 | | |
| SITE FINAL FORM IDC | | WV-LAG.9* | | |
| Waste Matrix Code Group | Solidified Inorganics | | | |
| Site Matrix Description | This waste stream consists of sweeping compound generated from normal site operations. The specific contents include grid and floor debris. This waste stream is classified as hazardous/radioactively contaminated based on the assumption that the waste contains lead and chromium contaminated paint chips. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WV

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE WV

WV-M013

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: Carbon steel

Liner Type: none

Number Stored: 7

Int. Vol/Ctnr: 0.208 m3

Liner Material:

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 1.5 | 1.5 m3 |
| End of 1993: | 1.5 | 1.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|-----------|-----------|
| Cs137 | Curies/m3 |
| Ba137m | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |
| Pu(unspe) | Curies/m3 |
| Am241 | Curies/m3 |
| U(unspe) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste stream represents 7 55-gallon drums currently stored in the Lag Storage Building.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **MTRU**

HANDLING **RH**

GENERATOR SITE **WV**

| | | | | |
|--------------------------------|---|-----------|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Chemical Process Cell General Waste |
| | WIPP ID | WV-M015 | | |
| | Local ID | N/A | DESCRIPTION | General waste generated from the Chemical Process Cell. |
| MATRIX CODE | | 8900 | | |
| SITE FINAL FORM IDC | | WV-CPC.2* | | |
| Waste Matrix Code Group | Unknown | | | |
| Site Matrix Description | This waste stream was generated as a result of the decommissioning and decontamination of the Chemical Process Cell (CPC). The CPC was previously used to reprocess spent fuel rods. The specific contents of this container are not known. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste ☐
 Non-Defense TRU Waste ☐
 Commercial TRU Waste ☒
 Unknown ☐

Mixed TRU ☐
 Non-Mixed TRU ☐
 Suspect Mixed TRU ☒
 Unknown ☐

☐ Research and Devel. Waste
☐ Operations Waste
☒ Residues
☐ Decon and Decommissioning
☐ Environmental Restoration
☐ From Treatment of Waste
☐ Maintenance

TSCA Asbestos ☐
 PCBs ☐
 Other ☐
 N/A ☒
 Unknown ☐

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **MTRU**

HANDLING **RH**

GENERATOR SITE **WV**

WV-M015

CONTAINER: **RH Cannister**

Type/Size:

Container Matl: **Steel**

Liner Type:

Number Stored:

Int. Vol/Ctnr: **0.89 m3**

Liner Material:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 10.5 | 10.5 m3 |
| End of 1993: | 10.5 | 10.5 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|------------|-----------|
| Cs137 | Curies/m3 |
| Ba137m | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |
| Pu(unspec) | Curies/m3 |
| Am241 | Curies/m3 |
| U(unspec) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste stream represents 1 370.3R3 box currently stored in the Chemical Process Cell - Waste Stream Area.

As a result of the development of the Historical Waste Report (HWR) in support of the Federal and State Facility Compliance Agreement (FSFCA), these wastes were identified as radiologically contaminated but require further evaluation to perform a complete hazardous characterization.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **WV**

| | | | | |
|--------------------------------|--|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Fissile Material - Solids |
| | WIPP ID | WV-T001 | | |
| | Local ID | N/A | DESCRIPTION | Solid fissile material generated from previous decontamination and decommissioning activities. |
| MATRIX CODE | | 5490 | | |
| SITE FINAL FORM IDC | | WV-RER.1* | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | This waste stream consists of solid fissile material generated from previous decontamination and decommissioning activities. The specific contents include CUNO filters, vacuum cans, glove box debris, etc. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WV

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE WV

WV-T001

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: Carbon steel

Liner Type: none

Number Stored: 18

Int. Vol/Ctnr: 0.208 m3

Liner Material:

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form | |
|--------------|-----------|------------|-------|
| End of 1992: | 3.7 | 3.7 | m3 |
| End of 1993: | 3.7 | 3.7 | m3 |
| 1994: | 0.0 | 0.0 | m3/yr |
| 1995: | 0.0 | 0.0 | m3/yr |
| 1996: | 0.0 | 0.0 | m3/yr |
| 1997: | 0.0 | 0.0 | m3/yr |
| 1998-2002: | 0.0 | 0.0 | m3/yr |
| 2003-2022: | 0.0 | 0.0 | m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity | |
|------------|----------|-----------|
| U235 | 0.00E+00 | Curies/m3 |
| Pu239 | 0.00E+00 | Curies/m3 |
| U(unspec) | 0.00E+00 | Curies/m3 |
| Pu(unspec) | 0.00E+00 | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste stream represents 18 55-gallon drums currently stored in the Ram Equipment Room

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WV

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE WV

| | | | | |
|--------------------------------|--|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Fissile Material - Alpha Lab Liquids |
| | WIPP ID | WV-T002 | | |
| | Local ID | N/A | DESCRIPTION | Liquid waste stream with associated fissile material generated from previous decontamination and decommissioning activities. |
| MATRIX CODE | | 6900 | | |
| SITE FINAL FORM IDC | | WV-RER.2* | | |
| Waste Matrix Code Group | Unknown | | | |
| Site Matrix Description | This waste stream consists of liquid waste stream with associated fissile material generated from previous decontamination and decommissioning activities. The specific contents include Alpha laboratory liquids. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **WV**

WV-T002

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **Carbon steel**
Int. Vol/Ctnr: **0.208**m3

Liner Type: **none**
Liner Material:

Number Stored: **3**
Number Projected: **0**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.6 | 0.6 m3 |
| End of 1993: | 0.6 | 0.6 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|------------|-----------|
| U235 | Curies/m3 |
| Pu239 | Curies/m3 |
| U(unspec) | Curies/m3 |
| Pu(unspec) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste stream represents 3 55-gallon drums currently stored in the Ram Equipment Room.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WV

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE WV

| | | | | |
|--------------------------------|---|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Fissile Material-UNH Solution |
| | WIPP ID | WV-T003 | | |
| | Local ID | N/A | DESCRIPTION | Liquid waste stream with associated fissile material generated from previous decontamination and decommissioning activities. |
| MATRIX CODE | | 1130 | | |
| SITE FINAL FORM IDC | | WV-RER.3* | | |
| Waste Matrix Code Group | Solidified Inorganics | | | |
| Site Matrix Description | This waste Stream consists of liquid waste stream with associated fissile material generated from previous decontamination and decommissioning activities. The specific contents include Uranyl Nitrate Hexahydrate (UNH) solution. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

☐
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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **WV**

WV-T003

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **Carbon steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type: **none**
Liner Material:

Number Stored: **1**
Number Projected: **0**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|------------|-----------|
| U235 | Curies/m3 |
| Pu239 | Curies/m3 |
| U(unspec) | Curies/m3 |
| Pu(unspec) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste stream represents 1 55-gallon drum currently stored in the Ram Equipment Room.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WV

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE WV

| | | | | |
|--------------------------------|--|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Fissile Material - Other |
| | WIPP ID | WV-T004 | | |
| | Local ID | N/A | DESCRIPTION | Fissile material generated from previous decontamination and decommissioning activities. |
| MATRIX CODE | | 8900 | | |
| SITE FINAL FORM IDC | | WV-RER.4* | | |
| Waste Matrix Code Group | Unknown | | | |
| Site Matrix Description | This waste stream consists of liquid waste with associated fissile material generated from previous decontamination and decommissioning activities. The specific contents are unknown. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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| X |
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TSCA Asbestos
PCBs
Other
N/A
Unknown

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| X |
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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **WV**

WV-T004

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **Carbon Steel**

Int. Vol/Ctnr: **0.208 m3**

Liner Type: **nine**

Liner Material:

Number Stored: **2**

Number Projected: **0**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.4 m3 |
| End of 1993: | 0.4 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|------------|-----------|
| U235 | Curies/m3 |
| Pu239 | Curies/m3 |
| U(unspec) | Curies/m3 |
| Pu(unspec) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste stream represents 2 55-gallon drums currently stored in the Ram Equipment Room.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WV

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE WV

| | | | | |
|--------------------------------|--|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU General Waste (Classified) |
| | WIPP ID | WV-T006 | | |
| | Local ID | N/A | DESCRIPTION | Radiologically and hazardous classified general site waste generated from normal site operation. |
| MATRIX CODE | | 5490 | | |
| SITE FINAL FORM IDC | | WV-LAG.2* | | |
| Waste Matrix Code Group | Heterogeneous | | | |
| Site Matrix Description | This waste stream consists of classified (i.e., radiologically and hazardous) general site waste generated from normal site operations. The specific contents include but are not limited to anticontamination clothing, hoses, glove bags, and tools. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **WV**

WV-T006

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **Carbon steel**

Int. Vol/Ctnr: **0.208** m3

Liner Type: **none**

Liner Material:

Number Stored: **50**

Number Projected: **192**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 10.4 | 10.4 m3 |
| End of 1993: | 10.4 | 10.4 m3 |
| 1994: | 8.4 | 8.4 m3/yr |
| 1995: | 3.9 | 3.9 m3/yr |
| 1996: | 3.9 | 3.9 m3/yr |
| 1997: | 3.9 | 3.9 m3/yr |
| 1998-2002: | 3.9 | 3.9 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|------------|-----------|
| Cs137 | Curies/m3 |
| Ba137m | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |
| Pu(unspec) | Curies/m3 |
| Am241 | Curies/m3 |
| U(unspec) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste stream represents 50 55-gallon drums currently stored in the Lag Storage Building.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **WV**

| | | | | |
|--------------------------------|-----------------|--|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU General Laboratory Waste |
| | WIPP ID | WV-T009 | | |
| | Local ID | N/A | DESCRIPTION | General laboratory waste generated on-site. |
| MATRIX CODE | | 5490 | | |
| SITE FINAL FORM IDC | | WV-LAG.5* | | |
| Waste Matrix Code Group | | Heterogeneous | | |
| Site Matrix Description | | This waste stream consists of general laboratory waste generated on-site. The specific contents include anticontamination clothing, bags, wipes, samples, etc. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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| X |
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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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| |
| X |
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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **WV**

WV-T009

CONTAINER: **Drum**
Type/Size: **55-gallon**

Container Matl: **Carbon steel**
Int. Vol/Ctnr: **0.208 m3**

Liner Type: **none**
Liner Material:

Number Stored: **3**
Number Projected: **75**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.6 | 0.6 m3 |
| End of 1993: | 0.6 | 0.6 m3 |
| 1994: | 2.6 | 2.6 m3/yr |
| 1995: | 1.6 | 1.6 m3/yr |
| 1996: | 1.6 | 1.6 m3/yr |
| 1997: | 1.6 | 1.6 m3/yr |
| 1998-2002: | 1.6 | 1.6 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|------------|-----------|
| Cs137 | Curies/m3 |
| Ba137m | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |
| Pu(unspec) | Curies/m3 |
| Am241 | Curies/m3 |
| U(unspec) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste stream represents 3 55-gallon drums currently stored in the Lag Storage Building.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WV

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE WV

| | | | | |
|--------------------------------|---|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | TRU Glove Boxes (Classified) |
| | WIPP ID | WV-T011 | | |
| | Local ID | N/A | DESCRIPTION | Radiologically and hazardous classified glove boxes generated from decommissioning and decontamination activities. |
| MATRIX CODE | | 5420 | | |
| SITE FINAL FORM IDC | | WV-LAG.7* | | |
| Waste Matrix Code Group | Uncategorized Metal | | | |
| Site Matrix Description | This waste stream consists of classified (i.e., radiologically and hazardous) glove boxes generated from decommissioning and decontamination activities. The specific contents include glove boxes and tools. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WV

WASTE TYPE TRU

HANDLING CH

GENERATOR SITE WV

WV-T011

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: Carbon steel

Int. Vol/Ctnr: 0.208 m3

Liner Type: none

Liner Material:

Number Stored: 2

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.4 m3 |
| End of 1993: | 0.4 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|-----------|-----------|
| Cs137 | Curies/m3 |
| Ba137m | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |
| Pu(unspe) | Curies/m3 |
| Am241 | Curies/m3 |
| U(unspe) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste stream represents 2 55-gallon drums currently stored in the Lag Storage Building.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WV

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE WV

| | | | | |
|--------------------------------|--|-----------|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Chemical Process Cell Vessels |
| | WIPP ID | WV-T014 | | |
| | Local ID | N/A | DESCRIPTION | Vessels removed from the Chemical Process Cell. |
| MATRIX CODE | | 5420 | | |
| SITE FINAL FORM IDC | | WV-CPC.1* | | |
| Waste Matrix Code Group | Uncategorized Metal | | | |
| Site Matrix Description | This waste stream was generated as a result of the decommissioning and decontamination of the Chemical Process Cell. The specific contents of these containers include evaporators, dissolvers, tanks, condensers, etc. These vessels were previously used to reprocess spent fuel rods. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☐
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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **TRU**

HANDLING **RH**

GENERATOR SITE **WV**

WV-T014

CONTAINER: **RH Cannister**

Container Matl: **Steel**

Liner Type:

Number Stored:

Type/Size:

Int. Vol/Ctnr: **0.89 m3**

Liner Material:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 269.7 | 269.7 m3 |
| End of 1993: | 269.7 | 269.7 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|------------|-----------|
| Cs137 | Curies/m3 |
| Ba137m | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |
| Pu(unspec) | Curies/m3 |
| Am241 | Curies/m3 |
| U(unspec) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste stream represents 9 boxes ranging from 482R3 to 1778R3 in capacity currently stored in the Chemical Process Cell - Waste Storage Area.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WV

WASTE TYPE TRU

HANDLING RH

GENERATOR SITE WV

| | | | | |
|--------------------------------|--|-----------|--------------------|--|
| WASTE STREAM | MWIR ID | | STREAM NAME | Chemical Process Cell Miscellaneous Equipment |
| | WIPP ID | WV-T016 | | |
| | Local ID | N/A | DESCRIPTION | Miscellaneous equipment generated from the Chemical Process Cell |
| MATRIX CODE | | 5420 | | |
| SITE FINAL FORM IDC | | WV-CPC.3* | | |
| Waste Matrix Code Group | Uncategorized Metal | | | |
| Site Matrix Description | This waste stream was generated as a result of the decommissioning and decontamination of the Chemical Process Cell (CPC). The specific contents of these containers include miscellaneous equipment, etc. The CPC was previously used to reprocess spent fuel rods. | | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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☐
☐

TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **TRU**

HANDLING **RH**

GENERATOR SITE **WV**

WV-T016

CONTAINER: RH Canister

Type/Size:

Container Matl: Steel

Liner Type:

Number Stored:

Int. Vol/Ctnr: 0.89 m3

Liner Material:

Number Projected:

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 435.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 146.8 | 146.8 m3 |
| End of 1993: | 146.8 | 146.8 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|-----------|-----------|
| Cs137 | Curies/m3 |
| Ba137m | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |
| Pu(unspe) | Curies/m3 |
| Am241 | Curies/m3 |
| U(unspe) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste represents 12 432ft3 boxes currently stored in the Chemical Process Cell - Waste Storage Area.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **WV**

| | | | | |
|--------------------------------|-----------------|--|--------------------|---|
| WASTE STREAM | MWIR ID | | STREAM NAME | Spent Filter Media |
| | WIPP ID | WV-T017 | | |
| | Local ID | N/A | DESCRIPTION | Spent filter media generated from normal site activities. |
| MATRIX CODE | | 3190 | | |
| SITE FINAL FORM IDC | | WV-FRS.1* | | |
| Waste Matrix Code Group | | Solidified Inorganics | | |
| Site Matrix Description | | This waste stream consists of spent filter media generated from the Fuel Receiving & Storage pool used to store the remaining spent fuel rods. | | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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|-------------------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |

Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

TSCA Asbestos
PCBs
Other
N/A
Unknown

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **TRU**

HANDLING **CH**

GENERATOR SITE **WV**

WV-T017

CONTAINER: **WVDP Standard Waste Box**

Type/Size:

Container Matl: **Carbon steel**

Liner Type: **none**

Number Stored: **2**

Int. Vol/Ctnr: **1.7**m3

Liner Material:

Number Projected: **0**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 0.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 2.3 | 2.3 m3 |
| End of 1993: | 2.3 | 2.3 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|------------|-----------|
| Cs137 | Curies/m3 |
| Ba137m | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |
| Pu(unspec) | Curies/m3 |
| Am241 | Curies/m3 |
| U(unspec) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

Comments

*This waste stream represents 80ft3 of spent filter media currently stored in a High Integrity Container.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WV

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE WV

| | | |
|--------------------------------|--|-----------------------------------|
| WASTE STREAM | MWIR ID WV-W024 | STREAM NAME TRU Lead |
| | WIPP ID WV-W024 | |
| | Local ID N/A | DESCRIPTION Elemental Lead |
| MATRIX CODE | 7200 | |
| SITE FINAL FORM IDC | WV-LED.1* | |
| Waste Matrix Code Group | Lead/Cadmium Metal Waste | |
| Site Matrix Description | This waste stream was previously used as lead shielding and was removed from various radiologically contaminated areas of the plant. The containers held heterogeneous lead. The size of the waste stream components is highly variable. | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

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Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME **WV**

WASTE TYPE **MTRU**

HANDLING **CH**

GENERATOR SITE **WV**

WV-W024

CONTAINER: **Drum**

Type/Size: **55-gallon**

Container Matl: **Carbon steel**

Int. Vol/Ctnr: **0.208** m3

Liner Type: **none**

Liner Material:

Number Stored: **1**

Number Projected: **0**

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE -ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.2 | 0.2 m3 |
| End of 1993: | 0.2 | 0.2 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|-----------|-----------|
| Cs137 | Curies/m3 |
| Ba137m | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |
| Pu(unspe) | Curies/m3 |
| Am241 | Curies/m3 |
| U(unspe) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D008C

Comments

*This waste stream represents 1 55-gallon drum currently stored in the Lag Storage Building.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WV

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE WV

| | | |
|--------------------------------|---|--|
| WASTE STREAM | MWIR ID WV-W041 | STREAM NAME TRU Paint (Dry) with Metals |
| | WIPP ID WV-W041 | |
| | Local ID N/A | |
| MATRIX CODE | 3131 | DESCRIPTION Paint chips/solids |
| SITE FINAL FORM IDC | WV-PNT.1* | |
| Waste Matrix Code Group | Solidified Organics | |
| Site Matrix Description | This waste stream consists of transuranic dried paint containing heavy metals (i.e., lead and chromium). This waste was newly identified as a result of the development of the Historical Waste Report (HWR) in support of the Federal and State Facility Compliance Agreement (FSFCA). | |

NO MIGRATION VARIANCE PETITION ASSIGNMENT

TRUCON CODE

FINAL WASTE FORM DESCRIPTORS:

Defense TRU Waste
Non-Defense TRU Waste
Commercial TRU Waste
Unknown

☐
☐
☒
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Mixed TRU
Non-Mixed TRU
Suspect Mixed TRU
Unknown

☒
☐
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☐

Research and Devel. Waste
Operations Waste
Residues
Decon and Decommissioning
Environmental Restoration
From Treatment of Waste
Maintenance

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TSCA Asbestos
PCBs
Other
N/A
Unknown

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WASTE STREAM PROFILE FOR THE WIPP TRU WASTE BASELINE INVENTORY REPORT

SITE NAME WV

WASTE TYPE MTRU

HANDLING CH

GENERATOR SITE WV

WV-W041

CONTAINER: Drum

Type/Size: 55-gallon

Container Matl: carbon steel

Liner Type: none

Number Stored: 2

Int. Vol/Ctnr: 0.208 m3

Liner Material:

Number Projected: 0

TYPICAL WASTE DENSITIES FOR FINAL WASTE FORM (kg/m3)

| Material Parameters | Average | Lower Limit | Upper Limit |
|------------------------------|---------|-------------|-------------|
| Iron-based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Aluminum-Based Metals/Alloys | 0.0 | 0.0 | 0.0 |
| Other Metals | 0.0 | 0.0 | 0.0 |
| Other Inorganic Materials | 0.0 | 0.0 | 0.0 |
| Cellulosics | 0.0 | 0.0 | 0.0 |
| Rubber | 0.0 | 0.0 | 0.0 |
| Plastics | 0.0 | 0.0 | 0.0 |
| Solidified, Inorganic matrix | 0.0 | 0.0 | 0.0 |
| Solidified, Organic matrix | 0.0 | 0.0 | 0.0 |
| Soils | 0.0 | 0.0 | 0.0 |
| Packaging Materials, Steel | 131.0 | | |
| Packaging Material, Plastic | 0.0 | | |

STORED TRU WASTE - ESTIMATED RATES OF WASTE GENERATION

| | Projected | Final Form |
|--------------|-----------|------------|
| End of 1992: | 0.4 | 0.4 m3 |
| End of 1993: | 0.4 | 0.4 m3 |
| 1994: | 0.0 | 0.0 m3/yr |
| 1995: | 0.0 | 0.0 m3/yr |
| 1996: | 0.0 | 0.0 m3/yr |
| 1997: | 0.0 | 0.0 m3/yr |
| 1998-2002: | 0.0 | 0.0 m3/yr |
| 2003-2022: | 0.0 | 0.0 m3/yr |

TYPICAL ISOTOPIC COMPOSITION

| Nuclide | Activity |
|------------|-----------|
| Cs137 | Curies/m3 |
| Ba137m | Curies/m3 |
| Sr90 | Curies/m3 |
| Y90 | Curies/m3 |
| Pu(unspec) | Curies/m3 |
| Am241 | Curies/m3 |
| U(unspec) | Curies/m3 |

TYPICAL EPA CODES APPLICABLE

D007A

D008A

Comments

*This waste stream represents 2 55-gallon drums currently stored in the Lag Storage Building.

The typical waste material weights (kg/m3) are not available for this waste stream.

Typical activity (curies/m3) is unknown for these radionuclides.

**Exhibits for Submission to NMED
With WIPP's Comments to
the November 26, 2003 Agency-
Initiated Permit Modification**

Volume 3 of 4

INDEX
***Exhibits for Submission to NMED With WIPP's Comments to
the 11/26/03 Agency-Initiated Permit Modification***

| | No. | Date | Description |
|---------------|-----|------------|---|
| Volume 1 of 4 | 1. | 9/10/99 | Report of the Hearing Officer In the Matter of the Final Permit Issued to the U.S. Department of Energy and Westinghouse Electric Company Waste Isolation Division for a Hazardous Waste Act Permit for the Waste Isolation Pilot Plant, USEPA No. NM4890139088 |
| | 2. | June 1994 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 0, Book 1 of 2, CAO-94-1005 |
| | 3. | June 1994 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 0, Book 2 of 2, CAO-94-1005 |
| | 4. | Feb. 1995 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 1, Volume 1, CAO-94-1005 |
| Volume 2 of 4 | 5. | Feb. 1995 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 1, Volume 2, CAO-94-1005 |
| Volume 3 of 4 | 6. | Feb. 1995 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 1, Volume 3, CAO-94-1005 |
| | 7. | June 1996 | Transuranic Waste Baseline Inventory Report, Revision 3, DOE/CAO-95-1121 |
| | 8. | 11/2/95 | Letter from B. Hoditschek of NMED to G. Dials of WIPP transmitting NMED comments on Revision 5 of the WIPP Part B RCRA Permit Application (Chapters A, B, and C), and requesting additional information |
| | 9. | 12/20/95 | Letter from M. McFadden of WIPP to B. Garcia of NMED providing responses to NMED's 11/2/95 comments on Revision 5 of the WIPP Part B RCRA Permit Application |
| | 10. | 3/14/96 | Letter from B. Garcia of NMED to G. Dials and J. Epstein of WIPP transmitting a Notice of Deficiency (NOD) regarding Revision 5.2 of WIPP's Part B RCRA Permit Application |
| | 11. | 4/12/96 | WIPP's responses to NMED's 3/14/96 NOD, hand delivered to B. Garcia of NMED on 4/12/96 |
| | 12. | 3/19/99 | Verbal hearing testimony of NMED's technical expert Constance Marie Walker during WIPP's 1999 RCRA Permit hearing, transcript pages 2717 - 2719 |
| | 13. | 6/25/99 | Summary of May 15, 1998 Draft Permit Public Comments and Responses to Comments by NMED, Module II.C, NMED response to Comment N-46, as reviewed by "CMW" |
| | 14. | 3/23/99 | NMED's Direct Testimony Regarding Regulatory Process and Imposed Conditions |
| | 15. | Jan. 2004 | NMED Green Gazette Newsletter, Volume I, Issue 1, Winter 2004 |
| | 16. | 1/9/04 | Request for Class 3 Permit Modification to the Hazardous Waste Facility Permit, Permit Number NM4890139088-TSDF, Implementing Section 311 of Public Law 108-137, transmittal letter from I. Triay and S. Warren of WIPP to S. Zappe of NMED |
| | 17. | 6/27/02 | WIPP Class 2 Permit Modification Request, Waste Characterization Updates and Other Process Improvements, Add U134 as a New Hazardous Waste Number, transmittal letter from I. Triay and J. Lee of WIPP to S. Zappe of NMED |
| | 18. | 11/25/02 | Letter from G. Lewis of NMED to I. Triay of WIPP approving 6/27/02 Class 2 PMR to add U134 as a new hazardous waste number |
| | 19. | Dec. 2001 | Rinchem Company, Inc., Albuquerque, NM - Final RCRA Operating Permit |
| | 20. | 12/2/97 | Rinchem Company, Inc., Albuquerque, NM - NMED request for supplementary information regarding Rinchem's Waste Analysis Plan in the Permit Application |
| | 21. | 4/24/96 | Rinchem Company, Inc., Albuquerque, NM - NMED Notice of Deficiency regarding February 1995 Permit Application |
| | 22. | 2/7/95 | Rinchem Company, Inc., Albuquerque, NM - RCRA Permit Application |
| | 23. | Sept. 2003 | Safety-Kleen, Albuquerque, NM - Final RCRA Operating Permit |

| Volume 4 of 4 | No. | Date | Description |
|---------------|-----|------------|--|
| | 24. | 11/15/02 | Safety-Kleen, Albuquerque, NM - NMED NOD regarding 7/27/01 Permit Application |
| | 25. | 3/9/03 | Safety-Kleen, Albuquerque, NM - responses to NMED's 11/15/02 NOD |
| | 26. | 1/27/01 | Safety-Kleen, Albuquerque, NM - RCRA Permit Application |
| | 27. | Sept. 2003 | Safety-Kleen, Farmington, NM - Final RCRA Operating Permit |
| | 28. | 11/15/02 | Safety-Kleen, Farmington, NM - NMED NOD regarding the 10/4/00 Permit Application |
| | 29. | 3/9/03 | Safety-Kleen, Farmington, NM - response to NMED's 11/15/02 NOD |
| | 30. | 10/4/00 | Safety-Kleen, Farmington, NM - RCRA Permit Application |
| | 31. | Mach 2002 | Gandy Marley, Inc. Triassic Park Waste Disposal Facility, Chavez County, NM, RCRA Operating Permit |
| | 32. | 6/11/99 | Fax from P. Corser of Montgomery Watson to G. Starkebaum of TechLaw, re: Preliminary Draft of Gandy Marley, Inc. Response to Request for Supplemental Information - May 1999 |
| | 33. | 6/10/99 | Letter from J. Bearzi of NMED to L. Gandy of Triassic Park, re: Draft Responses to Request for Supplemental Information |
| | 34. | 5/5/00 | Letter from S. Kruse of NMED to R. Davis of State Fire Marshal's Office, re: Proposed Hazardous Waste Landfill |
| | 35. | March 1988 | "Hazardous Waste Storage and Disposal in Geologic Repositories - Permit Guidance Under the Resource Conservation and Recovery Act, OSWER Directive 9523.00-1", U.S. EPA |
| | 36. | 10/17/01 | Verbal hearing testimony of NMED's technical expert Constance Marie Walker during Triassic Park's RCRA Permit hearing, transcript pages 857-859 |
| | 37. | 10/19/01 | Hearing Officer's Report, In the Matter of the Draft Final Permit for the Triassic Disposal Facility U.S. EPA No. NM0001022484, pages 97 - 98 |
| | 38. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Table of Contents and Cross-Reference Table |
| | 39. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Chapter A (incl. Part A Permit Application Form Revision 7) |
| | 40. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Chapter B |

TRANSURANIC WASTE BASELINE INVENTORY REPORT

(REVISION 3)



June 1996

NOTICE TO READERS

This document, Revision 3 of the Transuranic Waste Baseline Inventory Report (TWBIR), has been prepared to document the transuranic (TRU) waste inventory data to be used in the Sandia National Laboratories/New Mexico (SNL/NM) calculations for the Waste Isolation Pilot Plant's (WIPP's) performance assessment (PA). The TWBIR Revision 3, is comprised of previously published information found in Revision 2 of the TWBIR and supplemented with information and data that were specifically requested by the U.S. Department of Energy (DOE) Carlsbad Area Office (CAO) for the SNL/NM PA calculations.

The data contained in this document will also be used as the inventory basis for the WIPP Compliance Certification Application (CCA) to be submitted to the U.S. Environmental Protection Agency. The site information requested in the January 1996 data call has not been included in Revision 3. Future editions of the TWBIR will be identified by the year of data origin.

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ACRONYMS AND ABBREVIATIONS

| | |
|----------------|--|
| AE | Argonne National Laboratory-East site identifier |
| AL | Ames Laboratory site identifier |
| AM | ARCO Medical Products Company site identifier |
| AW | ANL-W site identifier |
| BC | Battelle Columbus Laboratory site identifier |
| BT | Bettis Atomic Power Laboratory site identifier |
| C&C Agreement | Agreement for Consultation and Cooperation between the Department of Energy and the State of New Mexico on the Waste Isolation Pilot Plant |
| CAO | Carlsbad Area Office |
| CCA | Compliance Certification Application |
| CFR | Code of Federal Regulations |
| CH | contact-handled |
| CY | calendar year |
| D&D | decontamination and decommissioning |
| DOE | U.S. Department of Energy |
| EPA | U.S. Environmental Protection Agency |
| ER | environmental restoration |
| ET | Energy Technology Engineering Center site identifier |
| FFCAct | Federal Facilities Compliance Act |
| IDB | Integrated Data Base |
| IN | Idaho National Engineering Laboratory site identifier |
| IT | Inhalation Toxicology Research Institute site identifier |
| KA | Knolls Atomic Power Laboratory-Schenectady site identifier |
| kg | kilograms |
| LA | Los Alamos National Laboratory site identifier |
| LANL | Los Alamos National Laboratory |
| LB | Lawrence Berkeley Laboratory site identifier |
| LL | Lawrence Livermore National Laboratory site identifier |
| LWA | Land Withdrawal Act |
| MC | U.S. Army Material Command |
| MD | Mound Plant site identifier |
| m ³ | cubic meters |
| mrem | millirem |
| MU | University of Missouri Research Reactor site identifier |
| NT | Nevada Test Site site identifier |
| OR | Oak Ridge National Laboratory site identifier |
| ORIGEN2 | Oak Ridge Isotope Generation and Depletion Code |
| ORNL | Oak Ridge National Laboratory |
| PA | performance assessment (in text only) |
| PA | Paducah Gaseous Diffusion Plant site identifier (in waste profiles only) |
| PCB | polychlorinated biphenyls |
| PX | Pantex site identifier |
| RCRA | Resource Conservation and Recovery Act |
| RF | Rocky Flats Environmental Technology Site site identifier |
| RFETS | Rocky Flats Environmental Technology Site |

| | |
|---------------|--|
| RH | remote-handled |
| RL | Hanford (Richland) site identifier |
| SA | Sandia National Laboratories/New Mexico site identifier |
| SNL/NM | Sandia National Laboratories/New Mexico |
| SR | Savannah River Site site identifier |
| SRS | Savannah River Site |
| TB | Teledyne Brown Engineering |
| TOC | total organic carbon |
| TRU | transuranic |
| TWBIR | Transuranic Waste Baseline Inventory Report |
| WAC | waste acceptance criteria |
| WIPP | Waste Isolation Pilot Plant |
| WMC | waste matrix code |
| WMP | waste material parameter |
| WV | West Valley Demonstration Project site identifier |

EXECUTIVE SUMMARY

The *Transuranic Waste Baseline Inventory Report* (TWBIR) establishes a methodology for grouping wastes of similar physical and chemical properties from across the U.S. Department of Energy (DOE) transuranic (TRU) waste system into a series of "waste profiles" that can be used as the basis for waste form discussions with regulatory agencies.

The purpose of Revisions 0 and 1 of this report was to provide data to be included in the Sandia National Laboratories/New Mexico (SNL/NM) performance assessment (PA) processes for the Waste Isolation Pilot Plant (WIPP). Revision 2 of the document expanded the original purpose and was also intended to support the WIPP Land Withdrawal Act (LWA) requirement for providing the total DOE TRU waste inventory. The document included a chapter and an appendix that discussed the total DOE TRU waste inventory, including nondefense, commercial, polychlorinated biphenyls (PCB)-contaminated, and buried (predominately pre-1970) TRU wastes that are not planned to be disposed of at WIPP.

Revision 3 of the TWBIR is based on the TWBIR Revision 2 data which are supplemented by data in several memoranda issued during early calendar year (CY) 1996. These memoranda summarize additional data requested by the U. S. Department of Energy/Carlsbad Area Office (DOE/CAO) to support the SNL/NM PA modeling. The primary purpose of Revision 3 is to provide the summary data from TWBIR Revision 2 and the supplemental information used by SNL/NM in the development of the Compliance Certification Application (CCA) to be delivered to the Environmental Protection Agency (EPA), and to support the LWA (Public Law, 1992b). The supplemental information was generated from specific data requests to the TRU waste sites since the publication of Revision 2. The supplemental data discussed in detail in Chapter 3 and Appendices A and B are listed below:

- Radionuclide data in support of the Compliance Certification Application.
- Estimate of complexing agents in TRU solidified waste forms scheduled for disposal in WIPP.
- Estimate for SNL/NM PA calculations of nitrate, sulfate, and phosphate content in transuranic solidified wastes destined for disposal in WIPP.
- Estimate of cement content in TRU solidified waste forms scheduled for disposal in WIPP.

Revision 2 of the TWBIR included both the TRU waste that is allowed to be disposed of in WIPP and the DOE TRU waste that is not currently allowed to be disposed of in WIPP (Public Law, 1992b). Because the primary purpose of this Revision 3 TWBIR is to support the CCA and PA, it includes only the DOE TRU waste that is currently allowed to be disposed of in WIPP.

Revision 3 of the TWBIR is different from previous revisions in that it provides the TRU waste inventory information developed for Revision 2 along with supplemental data. It is necessary for the reader to be familiar with Revision 2 of the TWBIR to understand this TWBIR Revision 3 document. Much of the TWBIR Revision 2 information is referenced, rather than repeated, in this document, resulting in an abbreviated document. Revision 3 of the TWBIR consists of one volume having five chapters and four appendices. There is not a new electronic database for

TWBIR Revision 3 because the data in the Revision 2 database are unchanged; therefore new database diskettes are not being published with this document.

The WIPP anticipated (stored and projected) inventory of TRU waste is defined as the sum of retrievably stored waste plus currently projected TRU waste volumes. Current projections do not include waste generated as a result of future environmental restoration (ER) and decontamination and decommissioning (D&D) activities and have only been developed over a 25 year period, consequently the anticipated inventory for CH-TRU waste is not sufficient to fill the maximum CH-TRU disposal inventory for WIPP (calculated to be approximately 168,500 cubic meters or 5,950,000 cubic feet). Scaling has been developed as a means for SNL/NM to model the impacts of a full repository. Scaling has not been applied to the RH-TRU inventory since the sites have reported sufficient RH-TRU waste to fill the RH-TRU disposal inventory (approximately 7,080 cubic meters or 250,000 cubic feet).

The TWBIR also estimates the WIPP disposal inventory in terms of 12 waste material parameters and additional packaging materials that have been identified by SNL/NM as necessary for PA. The 12 waste material parameters and additional packaging materials are constituents of TRU waste and are input parameters for one or more PA models or are required to adequately describe the waste form.

The 12 waste material parameters and additional packaging materials are listed below:

Waste Material Parameters

- Iron-base metal/alloys
- Aluminum-base metal/alloys
- Other metal/alloys
- Other inorganic materials
- Vitrified
- Cellulosics
- Rubber
- Plastics
- Solidified inorganic material
- Solidified organic material
- Cement (solidified)
- Soils

Packaging Materials

- Steel
- Plastic
- Lead (for RH-TRU waste only)

The waste material parameters are expressed on a weight/volume (kilograms per cubic meter) basis. The occurrence of more than one waste material parameter at the maximum value within a waste stream is highly unlikely. If required by PA calculations, the sampling statistics must be controlled so that several waste material parameters do not get sampled all at their maximum value (weight/volume), thereby exceeding the average weight/volume.

Attached to this Executive Summary are several summary tables from the body of the TWBIR Revision 3 which are frequently requested by TWBIR users:

- Table ES-1. WIPP CH-TRU Waste Material Parameter Disposal Inventory
- Table ES-2. WIPP RH-TRU Waste Material Parameter Disposal Inventory
- Table ES-3. WIPP CH-TRU Waste Anticipated Inventory by Site
- Table ES-4. WIPP RH-TRU Waste Anticipated Inventory by Site
- Table ES-5. Summary Radionuclide Inventory

Table ES-1. WIPP CH-TRU Waste Material Parameter Disposal Inventory*

| <u>Waste Material Parameters (Kg/m3)</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|--|----------------|----------------|----------------|
| Iron Base Metal/Alloys | 2.6E+03 | 1.7E+02 | 0.0E+00 |
| Aluminum Base Metal/Alloys | 8.0E+02 | 1.8E+01 | 0.0E+00 |
| Other Metal/Alloys | 1.6E+03 | 6.7E+01 | 0.0E+00 |
| Other Inorganic Materials | 1.4E+03 | 3.1E+01 | 0.0E+00 |
| Vitrified | 2.5E+03 | 5.5E+01 | 0.0E+00 |
| Cellulosics | 9.6E+02 | 5.4E+01 | 0.0E+00 |
| Rubber | 6.3E+02 | 1.0E+01 | 0.0E+00 |
| Plastics | 8.9E+02 | 3.4E+01 | 0.0E+00 |
| Solidified Inorganic Material | 2.2E+03 | 5.4E+01 | 0.0E+00 |
| Solidified Organic Material | 1.4E+03 | 5.6E+00 | 0.0E+00 |
| Cement (Solidified) | 1.2E+03 | 5.0E+01 | 0.0E+00 |
| Soils | 1.6E+03 | 4.4E+01 | 0.0E+00 |
| Container Materials - Kg/m3 | | | |
| Steel | | 139 | |
| Plastic/ Liners | | 26 | |

*This table is identical to Table ES-1 of TWBIR Revision 2, page ES-4 (DOE, 1995c).

Table ES-2. WIPP RH-TRU Waste Material Parameter Disposal Inventory*

| <u>Waste Material Parameters (Kg/m3)</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|--|----------------|----------------|----------------|
| Iron Base Metal/Alloys | 1.7E+03 | 1.0E+02 | 0.0E+00 |
| Aluminum Base Metal/Alloys | 1.7E+02 | 7.1E+00 | 0.0E+00 |
| Other Metal/Alloys | 9.1E+02 | 2.5E+02 | 0.0E+00 |
| Other Inorganic Materials | 2.0E+03 | 6.4E+01 | 0.0E+00 |
| Vitrified | 2.5E+03 | 4.7E+00 | 0.0E+00 |
| Cellulosics | 5.7E+02 | 1.7E+01 | 0.0E+00 |
| Rubber | 4.4E+02 | 3.3E+00 | 0.0E+00 |
| Plastics | 6.2E+02 | 1.5E+01 | 0.0E+00 |
| Solidified Inorganic Material | 6.1E+02 | 2.2E+01 | 0.0E+00 |
| Solidified Organic Material | 8.1E+02 | 9.3E-01 | 0.0E+00 |
| Cement (Solidified) | 5.8E+02 | 1.9E+01 | 0.0E+00 |
| Soils | 2.4E+01 | 1.0E+00 | 0.0E+00 |
| Container Materials - Kg/m3 | | | |
| Steel | | 446 | |
| Plastic/Liners | | 3.1 | |
| Lead | | 465 | |
| Steel Plug | | 2145 | |

*This table is identical to Table ES-2 of TWBIR Revision 2, page ES-5 (DOE, 1995c).

Table ES-3. WIPP CH-TRU Waste Anticipated Inventory By Site*

(Cubic Meters)

| Storage/Generator Site | Stored Volumes | Projected Volumes | Anticipated Volumes |
|---|-------------------|----------------------|------------------------|
| Ames Laboratory - Iowa State Univ. | 0.0E+00 | 4.2E-01 | 4.2E-01 |
| Argonne National Laboratory - East | 1.1E+01 | 1.3E+02 | 1.4E+02 |
| Argonne National Laboratory - West | 6.5E+00 | 7.4E+02 | 7.5E+02 |
| Bettis Atomic Power Laboratory | 0.0E+00 | 1.2E+02 | 1.2E+02 |
| Energy Technology Engineering Center | 1.7E+00 | 0.0E+00 | 1.7E+00 |
| Hanford (Richland) Site | 1.2E+04 | 3.3E+04 | 4.6E+04 |
| Idaho National Engineering Laboratory | 2.9E+04 | 0.0E+00 | 2.9E+04 |
| Lawrence Livermore National Laboratory | 2.3E+02 | 7.1E+02 | 9.4E+02 |
| Los Alamos National Laboratory | 1.1E+04 | 7.4E+03 | 1.8E+04 |
| Mound Plant | 2.7E+02 | 0.0E+00 | 2.7E+02 |
| Nevada Test Site | 6.2E+02 | 9.0E+00 | 6.3E+02 |
| Oak Ridge National Laboratory | 1.3E+03 | 2.6E+02 | 1.6E+03 |
| Paducah Gaseous Diffusion Plant | 0.0E+00 | 1.9E+00 | 1.9E+00 |
| Pantex Plant | 6.2E-01 | 0.0E+00 | 6.2E-01 |
| Rocky Flats Environmental Technology Site | 7.1E+02 | 4.4E+03 | 5.1E+03 |
| Sandia National Laboratory - Albuquerque | 6.7E+00 | 7.5E+00 | 1.4E+01 |
| Savannah River Site | 2.9E+03 | 6.8E+03 | 9.6E+03 |
| Teledyne Brown Engineering | 2.1E-01 | 0.0E+00 | 2.1E-01 |
| U.S. Army Material Command | 2.5E+00 | 0.0E+00 | 2.5E+00 |
| University of Missouri Research Reactor | 2.1E-01 | 8.3E-01 | 1.0E+00 |
| Total CH Volumes | 5.8E+04 | 5.4E+04 | 1.1E+05 |

*This table is identical to Table ES-3 of TWBIR Revision 2, page ES-6 (DOE, 1995c).

Table ES-4. WIPP RH-TRU Waste Anticipated Inventory By Site*

| (Cubic Meters) | | | |
|---------------------------------------|-----------------------|--------------------------|----------------------------|
| Storage/Generator Site | Stored Volumes | Projected Volumes | Anticipated Volumes |
| Argonne National Laboratory - West | 1.9E+01 | 1.3E+03 | 1.3E+03 |
| Battelle Columbus Laboratories | 5.8E+02 | 0.0E+00 | 5.8E+02 |
| Bettis Atomic Power Laboratory | 0.0E+00 | 6.7E+00 | 6.7E+00 |
| Energy Technology Engineering Center | 8.9E-01 | 0.0E+00 | 8.9E-01 |
| Hanford (Richland) Site | 2.0E+02 | 2.2E+04 | 2.2E+04 |
| Idaho National Engineering Laboratory | 2.2E+02 | 0.0E+00 | 2.2E+02 |
| Los Alamos National Laboratory | 9.4E+01 | 9.9E+01 | 1.9E+02 |
| Oak Ridge National Laboratory | 2.5E+03 | 4.5E+02 | 2.9E+03 |
| Total RH Volumes | 3.6E+03 | 2.3E+04 | 2.7E+04 |
| Total TRU Waste Volumes | 6.2E+04 | 7.7E+04 | 1.4E+05 |

*This table is identical to Table ES-4 of TWBIR Revision 2, page ES-7 (DOE, 1995c).

Table ES-5. Summary Radionuclide Inventory^{1*}

| Nuclide | CH-TRU Waste (Ci/m³) | RH-TRU Waste (Ci/m³) |
|----------------|--|--|
| Am241 | 2.62E+00 | 8.42E-01 |
| Ba137m | 4.53E-02 | 2.89E+01 |
| Cm244 | 1.87E-01 | 4.45E-02 |
| Co60 | 3.83E-04 | 1.47E+00 |
| Cs137 | 4.78E-02 | 3.05E+01 |
| Pu238 | 1.55E+01 | 2.05E-01 |
| Pu239 | 4.66E+00 | 1.45E+00 |
| Pu240 | 1.25E+00 | 7.15E-01 |
| Pu241 | 1.37E+01 | 2.00E+01 |
| Sr90 | 4.07E-02 | 2.95E+01 |
| Y90 | 4.07E-02 | 2.95E+01 |

¹Summary shows the ten radionuclides with the highest concentration in curies per cubic meter for both CH-TRU and RH-TRU waste. The list includes eleven radionuclides because the ten radionuclides with the highest concentration are different for CH-TRU and RH-TRU waste.

*This table is an update of Table ES-7, of TWBIR Revision 2, page ES-10 (DOE, 1995c).

1. INTRODUCTION

1.1 BACKGROUND

Transuranic (TRU) waste is defined as waste that is contaminated with alpha-emitting radionuclides with an atomic number greater than 92, with half-lives greater than 20 years, and concentrations of TRU isotopes greater than 100 nanocuries per gram of waste at the time of assay (DOE, 1988). TRU wastes are classified as either contact-handled (CH) waste or remote-handled (RH) waste, depending on the dose rate at the surface of the waste container. CH-TRU wastes are packaged TRU wastes with an external surface dose rate less than 200 millirems (mrem) per hour, while RH-TRU wastes are packaged TRU wastes with an external surface dose rate of 200 mrem or greater per hour (Public Law, 1992b). Unless otherwise indicated, for the purposes of this document, all references to TRU waste include TRU waste and mixed TRU waste (waste that contains both radioactive and hazardous components, as defined by the Atomic Energy Act [Public Law, 1954] and the Resource Conservation and Recovery Act [RCRA] as codified in Title 40 Code of Federal Regulations [CFR] Part 261.3 [EPA, 1980]).

The Waste Isolation Pilot Plant (WIPP) is a TRU waste management facility operated by the U.S. Department of Energy (DOE). The WIPP is currently identified as the permanent disposal site for TRU wastes (in retrievable storage or projected) generated at various DOE sites from defense-related activities of the United States government. The WIPP is scheduled to receive and dispose of TRU defense wastes from 8 major and additional minor DOE TRU waste sites (see Figure 1-1).

The DOE is committed to demonstrating compliance with all applicable regulations prior to permanent disposal of TRU defense wastes in the WIPP repository. These regulations are the environmental standards for management and disposal of TRU defense wastes as mandated in 40 CFR Part 191 (EPA, 1993) and Part 194 (EPA, 1996), and the RCRA regulations. Compliance demonstration through Sandia National Laboratories/New Mexico (SNL/NM) performance assessment (PA) calculations will be based on the inventory of existing and currently projected waste streams compiled in this document and the *Transuranic Waste Baseline Inventory Report* (TWBIR) Revision 2, as reported by the DOE TRU waste sites. Revision 3 of the TWBIR is different from previous revisions in that it provides the TRU waste inventory information developed for Revision 2 along with supplemental data. It is necessary for the reader to be familiar with Revision 2 of the TWBIR (DOE, 1995c) to understand TWBIR Revision 3.

1.2 PURPOSE

The purpose of the TWBIR is to document the total inventory of DOE TRU waste as defined by the DOE TRU waste sites. This document is based on the TWBIR Revision 2 data supplemented by several memoranda prepared during early calendar year (CY) 1996 that summarize additional data requested by the U. S. Department of Energy/Carlsbad Area Office (DOE/CAO) to support the SNL/NM PA modeling. The primary purpose of this document is to provide the summary data from TWBIR Revision 2 and the supplemental information used by SNL/NM for the development of the Compliance Certification Application (CCA) to be delivered to the Environmental Protection Agency (EPA), and to support the Land Withdrawal Act (LWA) (Public Law, 1992b). The supplemental information was generated from specific data requests

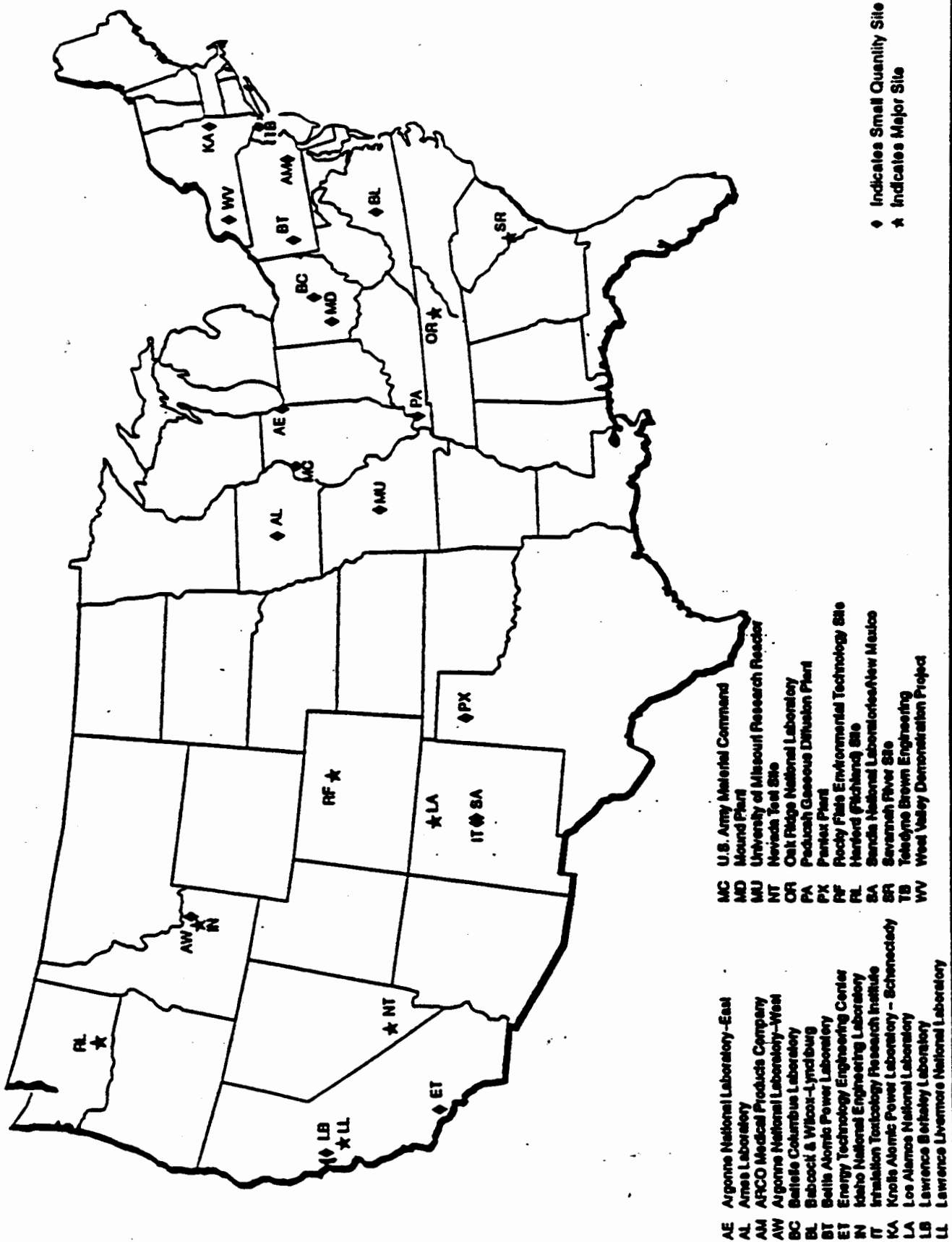


Figure 1-1. U.S. DOE Transuranic Waste Sites*

*This figure is identical to Figure 1-1 in TWBIR Revision 2, page 1-2 (DOE, 1995c).

to the TRU waste sites since the publication of Revision 2.

Revision 2 of the TWBIR included both the TRU waste that is allowed to be disposed of in WIPP and the DOE TRU waste that is not currently allowed to be disposed of in WIPP (Public Law, 1992b). Because the primary purpose of this Revision 3 TWBIR is to support the CCA and PA, it includes only the DOE TRU waste that is currently identified by the sites as being allowed to be disposed of in WIPP.

The TWBIR has been developed from the best available information and acceptable knowledge provided by the DOE TRU waste sites. In support of PA, the TWBIR describes a process for grouping individual waste streams with similar physical and chemical properties into waste profiles, based on their waste matrix code (WMC) (DOE, 1995a) assigned by the DOE TRU waste sites. The individual waste streams are also evaluated to estimate the occurrence and quantities of nonradioactive waste material parameters (WMPs) listed in Table 1-1 (e.g., cellulose, plastics, iron-base metal/alloys, etc.) that have been identified by SNL/NM as being potentially important to the performance of the WIPP repository. Waste profiles with similar WMCs are then combined across the DOE TRU waste system to provide estimated total volumes and total WMPs.

1.3 WASTE INVENTORY TERMINOLOGY

All terminology in this document is unchanged from the TWBIR Revision 2. A summary of terminology used in this document is provided in this section and in Chapter 5 (Glossary). A list of acronyms and abbreviations used are provided in the front of the document.

Stored Inventory – The part of the TRU inventory currently in retrievable storage at the time of the TWBIR Revision 2 data call for inventory information is known as "stored inventory" in this document. Retrievably stored waste includes waste stored since approximately 1970 in buildings or in berms with earthen cover and does not include any waste that was buried (predominately prior to 1970) (DOE, 1990).

As-Generated Waste – The chemical and physical status of waste when it is generated. The "as-generated" term applies to both stored and projected waste.

Projected Inventory – The part of the TRU waste inventory that has not been generated but is currently estimated to be generated at some time in the future by the TRU waste sites is known as "projected inventory."

Anticipated Inventory – For the TWBIR, this is the sum of the stored and projected inventories, calculated as:

$$\begin{array}{ccccc} \text{Stored} & & \text{Projected} & & \text{Anticipated} \\ \text{Inventory} & + & \text{Inventory} & = & \text{Inventory} \end{array}$$

Scaling – The process for adjusting, if needed, the projected inventory to the design limit (disposal inventory) of the WIPP repository is called "scaling."

$$\text{Stored Inventory} + \text{Projected Inventory (scaled as needed)} = \text{Disposal Inventory}$$

TABLE 1-1. TECHNICAL DATA NEEDS FOR PERFORMANCE ASSESSMENT WASTE MATERIAL PARAMETERS

| Waste Material Parameter | Input Variable in <u>Current</u> PA Models | |
|------------------------------------|--|----------------------------|
| | Gas Generation | Mechanical Characteristics |
| Iron-base metal/alloys | YES | YES |
| Aluminum-base metal/alloys | - | YES |
| Other metal/alloys | - | YES |
| Other inorganic materials | - | YES |
| Vitrified ¹ | - | YES |
| Cellulosics | YES | YES |
| Rubber | YES ² | YES |
| Plastics | YES ² | YES |
| Solidified inorganic material | - | YES |
| Solidified organic material | - | YES |
| Cement (solidified) ^{3,4} | YES | - |
| Soils ⁵ | - | YES |

¹ Waste material parameter corresponding to treatment, identified by some sites that plan to treat waste in the future.

² Only one-half of materials assumed to generate gas.

³ Percentage of material to generate gas is unknown at the present time.

⁴ Information on this waste material parameter is needed for non-PA scoping calculations for assessment of its importance.

⁵ May impact colloids.

Disposal Inventory – The inventory volume defined for WIPP emplacement to be used for PA calculations is the "disposal inventory." The LWA defines the total amount of TRU waste allowed for disposal in the WIPP as approximately 175,600 cubic meters (6,200,000 cubic feet) (Public Law, 1992b). The "Agreement for Consultation and Cooperation" (C&C Agreement) limits the RH-TRU inventory to approximately 7,080 cubic meters (250,000 cubic feet) (DOE and State of New Mexico, 1981). Therefore by difference, the CH-TRU inventory will be limited to approximately 168,500 cubic meters (5,950,000 cubic feet) if all of the RH-TRU allowance is filled.

Waste Matrix Code (WMC) - The WMCs were developed by DOE in response to the Federal Facilities Compliance Act (FFCA) (Public Law, 1992a) as a methodology to aid in categorizing mixed waste streams in the DOE system into a series of five-digit alphanumeric codes (e.g., S3100; Inorganic Process Residues) that represent different physical/chemical matrices (DOE, 1995a).

Final Waste Form - Final waste form of a waste stream refers to the expected physical and chemical form of that stream once the waste has been processed, treated, or repackaged (if necessary) and is ready for disposal. This consists of a series of WMCs that are grouped together. The use of the final waste form helps to group waste streams that are expected to have similar physical and chemical properties at the time of disposal. The final waste form applies to both stored and projected waste. An example of combining three waste streams which either contain particulates or are cemented particulate waste is presented below:

| | |
|---|-------------------------|
| WMC S3100 (inorganic process residues) | } Solidified Inorganics |
| WMC S3110 (inorganic particulates) | |
| WMC S3150 (solidified process residues) | |

Particulate waste may be immobilized prior to shipment to WIPP. If so, all three of these waste streams would be the same basic waste form when emplaced in WIPP and have similar physical and chemical properties. The final waste form for this example is solidified inorganics. Table 1-2 presents all anticipated WMCs for TRU waste and indicates the final waste form typically assigned to each WMC for the TWBIR. There are 11 final waste forms used in this TWBIR. The last two rows in Table 1-2, Excluded and Unknown Waste Streams, group WMCs that will not be accepted at WIPP until additional characterization and/or processing occurs to meet the WIPP Waste Acceptance Criteria (WAC) (DOE, 1996).

Waste Material Parameter - This is one (or more) nonradioactive waste constituent(s) that occurs in a TRU waste stream that is an input parameter into one or more PA models or is required to adequately describe the waste form. The waste material parameters and additional packaging materials that are reported in weight/volume (kg/m³) and included in the TWBIR are:

WASTE MATERIAL PARAMETERS

- Iron-base metal/alloys
- Aluminum-base metal/alloys
- Other metal/alloys
- Other inorganic materials
- Vitrified
- Cellulosics
- Rubber
- Plastics
- Solidified inorganic material
- Solidified organic material
- Cement (solidified)
- Soils

PACKAGING MATERIALS

- Steel
- Plastic
- Lead (for RH-TRU waste only);

WIPP Waste Profile - The WIPP waste profile represents a summary of TRU wastes at all DOE TRU waste sites that have an identical final waste form.

TABLE 1-2. WASTE MATRIX CODES AND THEIR ANTICIPATED FINAL WASTE FORM

| Final Waste Form | Waste Matrix Codes |
|---|--|
| Solidified Inorganics | L1000 ¹ , L1100 ¹ , L1110 ¹ , L1120 ¹ , L1130 ¹ , L1140 ¹ , L1190 ¹ , L200 ¹ , L1210 ¹ , L1220 ¹ , L1230 ¹ , L1240 ¹ , L1290 ¹ , S3000 ² , S3100 ³ , S3110 ³ , S3111 ³ , S3112 ³ , S3113 ³ , S3115 ³ , S3118 ³ , S3119 ³ , S3120 ¹ , S3121 ¹ , S3122 ¹ , S3123 ¹ , S3124 ¹ , S3125 ¹ , S3129 ¹ , S3130 ^{1 or 3} , S3131 ^{1 or 3} , S3132 ^{1 or 3} , S3139 ^{1 or 3} , S3144 ³ , S3150, S3160 ³ , S3190 ^{1 or 3} , S3900 ² , X6000 ⁴ , X6200 ⁵ , X6300 ⁶ , X6400 ⁵ , X6900 ⁴ , X7300 ³ , X7500 ⁸ , X7510 ⁸ , X7520 ⁸ , X7530 ⁸ , X7590 ⁸ , L9000 ² , Z1110, Z1190 |
| Salt | S3000 ² , S3140, S3141, S3142, S3143, S3149, S3900 ² , L9000 ² |
| Solidified Organics | L2000 ¹ , L2100 ¹ , L2110 ¹ , L2120 ¹ , L2190 ¹ , L2200 ¹ , L2210 ¹ , L2220 ¹ , L2290 ¹ , L2900 ¹ , S3000 ² , S3114 ³ , S3200 ³ , S3210 ³ , S3211 ³ , S3212 ³ , S3219 ³ , S3220 ¹ , S3221 ¹ , S3222 ¹ , S3223 ¹ , S3229 ¹ , S3230 ³ , S3290 ^{1 or 3} , S3900 ² , S5340 ³ , X6000 ⁴ , X6100 ⁵ , X6190 ⁴ , X6900 ⁴ , L9000 ² , Z1110, Z1190 |
| Soils | S4000, S4100, S4200, S4300, S4900, |
| Uncategorized Metal (Metal Waste Other Than Lead and/or Cadmium) | S3116, S5000 ⁹ , S5100 ⁷ , S5110, S5111, S5119, S5190, X6200, X7000 ¹⁰ , X7290, X7400 ¹¹ , X7430, X7490 ¹¹ , X7520 ⁸ , Z1140, Z1190, Z2100 ¹⁰ |
| Lead/Cadmium Metal | S5000 ⁹ , S5100 ⁷ , S5110, S5112, S5113, S5119, S5190, X6220 ⁸ , X7000 ¹⁰ , X7200, X7210, X7211, X7212, X7219, X7220, X7290, X7400 ¹¹ , X7410 ¹¹ , X7420 ¹¹ , X7490 ¹¹ , Z2100 ¹⁰ |
| Inorganic Non-Metal | S3117, S3118, S3160, S5000 ⁹ , S5100 ⁷ , S5120, S5121, S5122, S5123, S5124, S5125, S5126, S5129, S5190, Z1120, Z1150, Z1190 |
| Combustible | S5000 ⁹ , S5300, S5310, S5311, S5312, S5313, S5319, S5320, S5330, S5390, Z1130, Z1190, Z1200 |
| Graphite | S5000 ⁹ , S5126 |
| Heterogeneous | S5000 ⁹ , S5100 ⁹ , S5400, S5420, S5440, S5450, S5460, S5490, X7520 ⁸ , Z2900 |
| Filter | S5000 ⁹ , S5410 |
| Excluded Waste Streams¹² | X7000, X7100, X7600, X7700 |
| Unknown¹³ | S5190, X7900, L9000, S9000, Z9000, U9999 |

**TABLE 1-2. WASTE MATRIX CODES AND THEIR ANTICIPATED FINAL WASTE FORM
(CONTINUED)**

- ¹ Liquid waste streams are assumed to be solidified prior to being sent to WIPP.
- ² WMCs S3000, S3900, and L9000 are placed in "solidified inorganics," "salt," or "solidified organics," depending on the information provided by the TRU waste site.
- ³ Particulate waste streams are assumed to be solidified prior to being sent to WIPP.
- ⁴ WMCs X6000 and X6900 are placed in "solidified organics" or "solidified inorganics" depending on the information provided by the TRU waste site.
- ⁵ Liquid lab pack waste is assumed to be solidified prior to being sent to WIPP.
- ⁶ Solid lab packs are assumed to be solidified prior to being sent to WIPP.
- ⁷ WMC S5100 is placed in "uncategorized metal," "lead-cadmium metal," or "inorganic non-metal" depending on the information provided by the site.
- ⁸ Waste stream is assumed to be treated prior to being sent to WIPP.
- ⁹ WMC S5000 is placed in "uncategorized metal," "lead/cadmium metal," "inorganic non-metal," "combustible," "graphite," "heterogeneous," or "filter," depending on the information provided by the site.
- ¹⁰ WMC Z2100 is placed in "uncategorized metal" or "lead/cadmium metal" depending on the information provided by the site.
- ¹¹ WMCs X7400, X7410, X7420, and X7490 are assumed to be drained of liquid and contain only metal waste.
- ¹² These waste streams are excluded from disposal in WIPP at this time, e.g., PCB and elemental mercury.
- ¹³ If adequate information is provided by the TRU waste site, these WMCs are changed. If there is not enough information, these waste streams remain as "unknown" and are excluded from disposal in WIPP until characterized.

1.4 METHODOLOGY FOR DEVELOPMENT OF DISPOSAL INVENTORY

Development of the WIPP TRU waste disposal inventory is accomplished by a series of steps starting with the individual waste stream profiles submitted by the TRU waste sites. These waste stream profiles are grouped together, based on similar physical and chemical properties, into common "WIPP waste profiles," which should facilitate discussions with regulatory agencies and stakeholders concerning the disposal waste inventory. The process of grouping similar waste streams is exemplified in Figure 1-2. The waste profiles also contain information on waste material parameters that could affect the performance of the WIPP repository and that may be direct inputs to the PA models.

The CH-TRU anticipated inventory consists of up to 11 overall CH-TRU WIPP final waste forms based on the physical and chemical properties of the waste streams. Because the volume of the CH-TRU anticipated inventory is not sufficient to fill the maximum calculated CH-TRU capacity of WIPP, scaling of the projected CH-TRU inventory is necessary to attain the maximum calculated WIPP CH-TRU disposal inventory of approximately 168,500 cubic meters (5.95 million cubic feet). The scaling factor for CH-TRU waste is computed as follows:

$$\frac{\text{maximum calculated CH-TRU inventory} - \text{stored CH-TRU inventory}}{\text{projected CH-TRU inventory}} = \text{CH-TRU scaling factor}$$

The WIPP disposal inventory is the inventory to be used in PA calculations. To calculate the disposal inventory by final waste form for CH-TRU waste, the **projected inventory** is multiplied by the scaling factor, added to the stored inventory for each final waste form, and summed together.

The RH-TRU anticipated inventory is greater than the WIPP C&C Agreement limit (DOE and State of New Mexico, 1981) of approximately 7,080 cubic meters. DOE will abide by the WIPP C&C Agreement for RH-TRU waste volumes and the LWA, which limits the curies of RH-TRU waste allowed in WIPP to 5.1 million curies (Public Law, 1992b). As stated earlier, one purpose of the TWBIR is to report the DOE TRU inventory in such a way that it will facilitate performance assessment by SNL/NM and support development of compliance applications to the appropriate regulatory agencies. Since this is not a WIPP load management document, the RH-TRU inventory has not been scaled back in this document to the regulatory limit. The RH-TRU inventory for WIPP will be averaged across all RH-TRU waste sites and reported as kilograms/cubic meter for the waste material parameters and curies/cubic meter for radionuclides.

1.5 DOCUMENT ORGANIZATION

The TWBIR Revision 3 is organized into chapters of text, figures, tables, and supporting appendices. The contents of remaining chapters in this document are summarized below:

- Chapter 2 provides a summary of the WIPP disposal inventory information previously presented in TWBIR Revision 2.
- Chapter 3 presents supplementary disposal inventory information.
- Chapter 4 provides the document references.

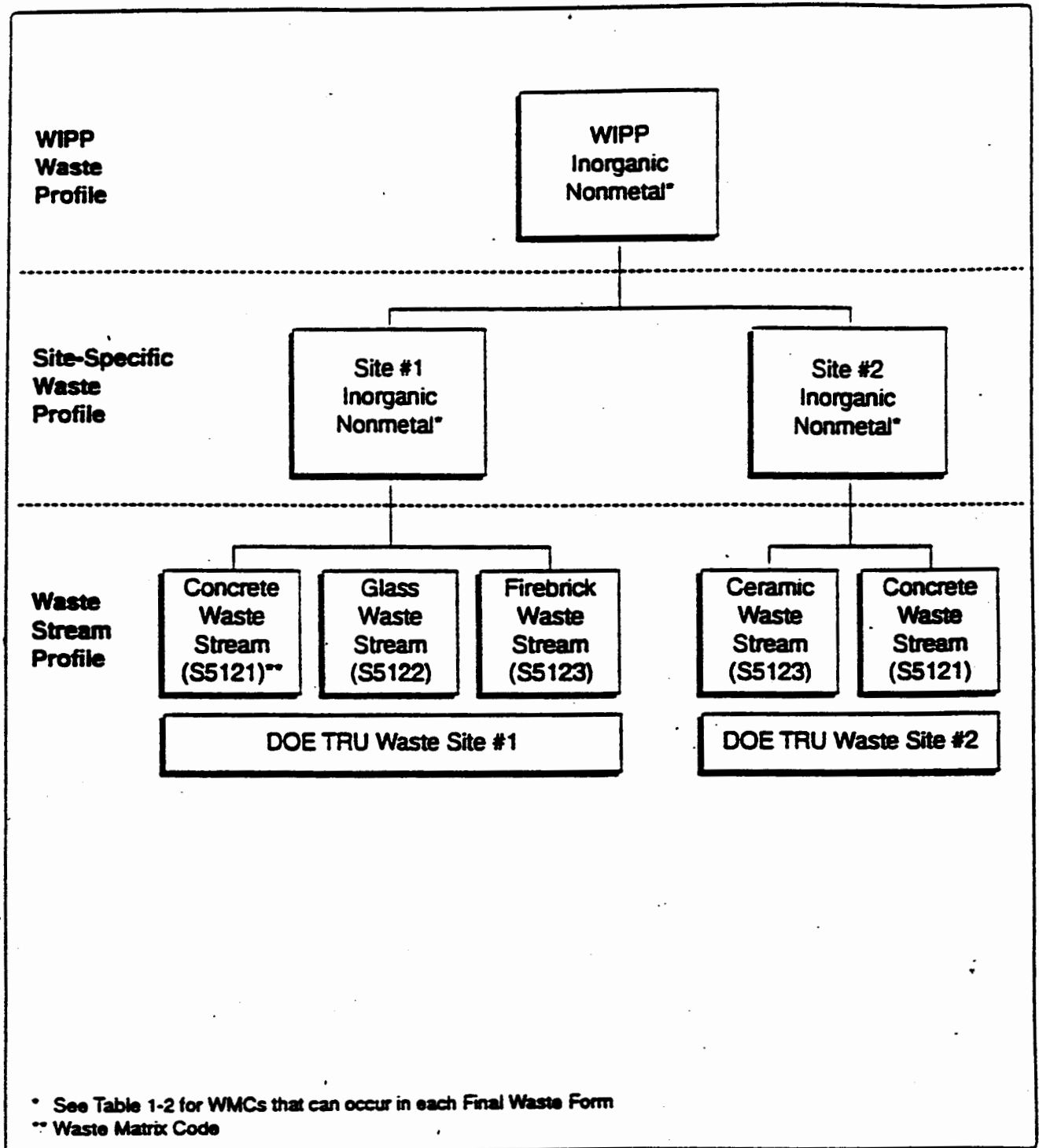


Figure 1-2. Schematic of Waste Stream Profile Methodology*

*This figure is identical to Figure 2-3 of TWBIR Revision 2, page 2-10 (DOE, 1995c).

- Chapter 5 provides a document glossary.
- Appendix A provides the SNL/NM memoranda requesting information to supplement the TWBIR Revision 2.
- Appendix B includes DOE and SNL/NM memoranda that provide information to supplement the TWBIR Revision 2.
- Appendix C provides the site-specific stored radionuclide inventories decayed to December 1995.
- Appendix D provides the correction received from SNL/NM for Cf-252 decayed inventory.

2. SUMMARY OF WIPP DISPOSAL INVENTORY INFORMATION

2.1 INTRODUCTION

The DOE TRU waste sites have assigned an overall final waste form to each waste stream based on the expected physical and chemical form of the waste after the sites process, treat, or repackage the waste (if necessary). Each site provides the stored and projected inventory for each waste stream. The TWBIR generates the WIPP TRU waste inventory by rolling-up the waste stream volumes that have the same final waste form within a site to generate site profiles (see TWBIR Revision 2 [DOE, 1995c] for waste stream and site-specific waste profiles). Then the site-level volumes with the same final waste form are rolled-up to generate the WIPP TRU waste inventory by final waste form (see TWBIR Revision 2 for detailed information on the roll-up methodology).

This chapter summarizes the WIPP-level information for the disposal inventory. The data provided in this chapter are identical to those provided in TWBIR Revision 2. These are the data used by SNL/NM in the WIPP performance assessment to demonstrate regulatory compliance. This chapter will include the following TWBIR Revision 2 information:

- WIPP disposal inventory volumes for each final waste form - taken from Table 3-1 (unchanged) in Section 3.2 of TWBIR Revision 2.
- WIPP disposal inventory waste material parameters - taken from Tables 3-2 and 3-3 (unchanged) in Section 3.3 of TWBIR Revision 2.
- Summary of WIPP anticipated inventory from each site - taken from Tables 4-1 and 4-2 (unchanged) in Chapter 4 of TWBIR Revision 2.

2.2 WIPP DISPOSAL INVENTORY VOLUMES FOR EACH FINAL WASTE FORM

The disposal inventory is defined by the LWA (Public Law, 1992b) and the WIPP C&C Agreement (DOE and the State of New Mexico, 1981) as follows: the maximum allowable WIPP capacity is approximately 175,600 cubic meters, of which RH-TRU disposal inventory is limited to approximately 7,080 cubic meters resulting in a calculated CH-TRU disposal inventory limit of approximately 168,500 cubic meters.

Using volumes for all the retrievably stored and projected defense TRU waste streams (including the mixed and nonmixed TRU waste volumes) a disposal inventory of TRU waste has been developed using the methodology described in Chapter 3 of Revision 2 of the TWBIR. This inventory is presented in Table 2-1 (by final waste forms) and depicts both the anticipated and disposal inventory volumes.

The anticipated CH-TRU inventory volumes are the sum of the stored and projected volumes. Scaling of the disposal inventory is for PA purposes to enable SNL/NM to model a capacity waste load based on currently anticipated profiles.

TABLE 2-1. TRANSURANIC WASTE DISPOSAL INVENTORY FOR WIPP*
Contact Handled Waste (Cubic Meters)

| Final Waste Forms | Stored Volumes | Projected Volumes | Anticipated Volumes | WIPP Disposal Volumes |
|--------------------------------|-----------------------|--------------------------|----------------------------|------------------------------|
| Combustible | 5.8E+03 | 4.6E+03 | 1.0E+04 | 1.4E+04 |
| Filter | 2.2E+02 | 5.1E+02 | 7.3E+02 | 1.2E+03 |
| Graphite | 5.1E+02 | 4.8E+01 | 5.6E+02 | 6.0E+02 |
| Heterogeneous | 2.7E+04 | 1.3E+04 | 4.0E+04 | 5.1E+04 |
| Inorganic Non-Metal | 3.1E+03 | 9.4E+02 | 4.1E+03 | 4.9E+03 |
| Lead/Cadmium Metal Waste | 3.5E+01 | 3.3E+02 | 3.7E+02 | 6.6E+02 |
| Salt Waste | 2.1E+01 | 3.3E+02 | 3.5E+02 | 6.4E+02 |
| Soils | 4.1E+02 | 6.0E+03 | 6.4E+03 | 1.2E+04 |
| Solidified Inorganics | 9.6E+03 | 4.5E+03 | 1.4E+04 | 1.8E+04 |
| Solidified Organics | 9.1E+02 | 7.5E+01 | 9.8E+02 | 1.1E+03 |
| Uncategorized Metal | 1.1E+04 | 2.3E+04 | 3.4E+04 | 5.4E+04 |
| Total CH Volumes | 5.8E+04 | 5.4E+04 | 1.1E+05 | 1.6E+05 |
| Remote Handled Waste | | | | |
| Combustible | 3.6E+01 | 4.9E+01 | 8.5E+01 | |
| Heterogeneous | 2.3E+03 | 5.5E+03 | 7.8E+03 | |
| Inorganic Non-Metal | 4.6E+01 | 2.1E+01 | 6.8E+01 | |
| Lead/Cadmium Metal Waste | 7.1E+00 | 6.7E+01 | 7.4E+01 | |
| Solidified Inorganics | 1.1E+03 | 2.3E+02 | 1.3E+03 | |
| Solidified Organics | 3.6E+00 | 0.0E+00 | 3.6E+00 | |
| Uncategorized Metal | 1.2E+02 | 1.7E+04 | 1.8E+04 | |
| Total RH Volumes | 3.6E+03 | 2.3E+04 | 2.7E+04 | |
| Total TRU Waste Volumes | 6.2E+04 | 7.7E+04 | 1.4E+05 | 1.7E+05 |

*This table is identical to Table 3-1 of TWBIR Revision 2, page 3-2 (DOE, 1995c).

Applying the formula given in Chapter 1:

$$\frac{\begin{array}{l} 1.685 \times 10^5 \text{ m}^3 \\ \text{(CH-TRU disposal inventory)} - \text{(stored inventory)} \end{array}}{5.4 \times 10^4 \text{ m}^3 \text{ (projected inventory)}} \approx 2.05 \text{ (scaling factor)}$$

- Multiply the CH-TRU waste projected inventory volumes by the scaling factor for all the final waste forms, and add the stored volumes (which results in the numbers in the "Disposal Inventory" column of Table 2-1).

The CH-TRU waste stream volume on a system-wide final waste form basis is increased by approximately 50 percent to account for the difference between the anticipated inventory and the maximum calculated WIPP CH-TRU disposal inventory.

The RH-TRU WIPP inventory has not been scaled. The RH-TRU anticipated inventory is greater than the amount of RH-TRU waste allowed in the WIPP by the C&C Agreement (DOE and the State of New Mexico, 1981). DOE is committed to abide by all agreements and laws regarding RH-TRU limitations. DOE and SNL/NM will evaluate this inventory to determine the disposal options for all DOE RH-TRU waste. This inventory has not been scaled back to the limit imposed by the C&C Agreement so that all available data are presented to DOE and SNL/NM to conduct modeling and other evaluations to determine the disposition of this waste.

2.3 ROLL-UP OF WIPP WASTE MATERIAL PARAMETERS BY FINAL WASTE FORM

The roll-ups of waste material parameters by final waste forms are developed from the volumes presented in the TWBIR Revision 2. The roll-ups by final waste forms require combining data from several waste streams. A weighted average value for the waste material parameters is calculated from the average densities provided by the TRU waste sites modified by the volume fractions and summed as follows:

$$\begin{array}{l} \text{Average Density} \\ \text{of waste material} \\ \text{parameter} \end{array} = \sum \text{Average Density}_i \times \frac{\text{(Volume TWBIR Stream}_i\text{)}}{\text{(Total Volume of Final Waste Form)}}$$

*where i is an index representing individual waste streams of the same final waste form

The minimum density is chosen as the smallest minimum density of a particular waste material parameter in the TWBIR Revision 2. The maximum density is chosen in a similar manner, except that the largest maximum density is chosen. Thus, the maximum and minimum values reported in Tables 2-2 and 2-3 are the absolute extreme values reported across the system, and in many cases they only apply to a very small volume of waste. If required, the user can use the data in the TWBIR Revision 2 database to calculate a "weighted average maximum" value to obtain a maximum value that may be more representative of the total inventory.

The waste material parameters that are inputs to the PA models are presented in Table 2-2 for CH-TRU waste and Table 2-3 for RH-TRU waste. These tables represent the waste material parameters for the WIPP disposal inventory.

2.4 SUMMARY OF WIPP ANTICIPATED INVENTORY FROM EACH SITE

Each WIPP waste stream from each TRU waste site is characterized in a waste stream profile in TWBIR Revision 2. Summary tables of CH-TRU and RH-TRU WIPP waste volumes by site are provided in Tables 2-4 and 2-5.

Table 2-2. WIPP CH-TRU Waste Material Parameter Disposal Inventory*

| <u>Waste Material Parameters (Kg/m3)</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|--|----------------|----------------|----------------|
| Iron Base Metal/Alloys | 2.6E+03 | 1.7E+02 | 0.0E+00 |
| Aluminum Base Metal/Alloys | 8.0E+02 | 1.8E+01 | 0.0E+00 |
| Other Metal/Alloys | 1.6E+03 | 6.7E+01 | 0.0E+00 |
| Other Inorganic Materials | 1.4E+03 | 3.1E+01 | 0.0E+00 |
| Vitrified | 2.5E+03 | 5.5E+01 | 0.0E+00 |
| Cellulosics | 9.6E+02 | 5.4E+01 | 0.0E+00 |
| Rubber | 6.3E+02 | 1.0E+01 | 0.0E+00 |
| Plastics | 8.9E+02 | 3.4E+01 | 0.0E+00 |
| Solidified Inorganic Material | 2.2E+03 | 5.4E+01 | 0.0E+00 |
| Solidified Organic Material | 1.4E+03 | 5.6E+00 | 0.0E+00 |
| Cement (Solidified) | 1.2E+03 | 5.0E+01 | 0.0E+00 |
| Soils | 1.6E+03 | 4.4E+01 | 0.0E+00 |
| Container Materials - Kg/m3 | | | |
| Steel | | 139 | |
| Plastic/ Liners | | 28 | |

*This table is identical to Table 3-2 in TWBIR Revision 2, page 3-4 (DOE, 1995c).

Table 2-3. WIPP RH-TRU Waste Material Parameter Disposal Inventory*

| <u>Waste Material Parameters (Kg/m3)</u> | <u>Maximum</u> | <u>Average</u> | <u>Minimum</u> |
|---|-----------------------|-----------------------|-----------------------|
| Iron Base Metal/Alloys | 1.7E+03 | 1.0E+02 | 0.0E+00 |
| Aluminum Base Metal/Alloys | 1.7E+02 | 7.1E+00 | 0.0E+00 |
| Other Metal/Alloys | 9.1E+02 | 2.5E+02 | 0.0E+00 |
| Other Inorganic Materials | 2.0E+03 | 6.4E+01 | 0.0E+00 |
| Vitrified | 2.5E+03 | 4.7E+00 | 0.0E+00 |
| Cellulosics | 5.7E+02 | 1.7E+01 | 0.0E+00 |
| Rubber | 4.4E+02 | 3.3E+00 | 0.0E+00 |
| Plastics | 6.2E+02 | 1.5E+01 | 0.0E+00 |
| Solidified Inorganic Material | 6.1E+02 | 2.2E+01 | 0.0E+00 |
| Solidified Organic Material | 8.1E+02 | 9.3E-01 | 0.0E+00 |
| Cement (Solidified) | 5.8E+02 | 1.9E+01 | 0.0E+00 |
| Soils | 2.4E+01 | 1.0E+00 | 0.0E+00 |
| Container Materials - Kg/m3 | | | |
| Steel | | 446 | |
| Plastic/Liners | | 3.1 | |
| Lead | | 465 | |
| Steel Plug | | 2145 | |

*This table is identical to Table 3-3 in TWBIR Revision 2, page 3-5 (DOE, 1995c).

Table 2-4. WIPP CH-TRU Waste Anticipated Inventory By Site*

(Cubic Meters)

| Storage/Generator Site | Stored Volumes | Projected Volumes | Anticipated Volumes |
|---|-------------------|----------------------|------------------------|
| Ames Laboratory - Iowa State Univ. | 0.0E+00 | 4.2E-01 | 4.2E-01 |
| Argonne National Laboratory - East | 1.1E+01 | 1.3E+02 | 1.4E+02 |
| Argonne National Laboratory - West | 6.5E+00 | 7.4E+02 | 7.5E+02 |
| Bettis Atomic Power Laboratory | 0.0E+00 | 1.2E+02 | 1.2E+02 |
| Energy Technology Engineering Center | 1.7E+00 | 0.0E+00 | 1.7E+00 |
| Hanford (Richland) Site | 1.2E+04 | 3.3E+04 | 4.6E+04 |
| Idaho National Engineering Laboratory | 2.9E+04 | 0.0E+00 | 2.9E+04 |
| Lawrence Livermore National Laboratory | 2.3E+02 | 7.1E+02 | 9.4E+02 |
| Los Alamos National Laboratory | 1.1E+04 | 7.4E+03 | 1.8E+04 |
| Mound Plant | 2.7E+02 | 0.0E+00 | 2.7E+02 |
| Nevada Test Site | 6.2E+02 | 9.0E+00 | 6.3E+02 |
| Oak Ridge National Laboratory | 1.3E+03 | 2.6E+02 | 1.6E+03 |
| Paducah Gaseous Diffusion Plant | 0.0E+00 | 1.9E+00 | 1.9E+00 |
| Pantex Plant | 6.2E-01 | 0.0E+00 | 6.2E-01 |
| Rocky Flats Environmental Technology Site | 7.1E+02 | 4.4E+03 | 5.1E+03 |
| Sandia National Laboratory - Albuquerque | 6.7E+00 | 7.5E+00 | 1.4E+01 |
| Savannah River Site | 2.9E+03 | 6.8E+03 | 9.6E+03 |
| Teledyne Brown Engineering | 2.1E-01 | 0.0E+00 | 2.1E-01 |
| U.S. Army Material Command | 2.5E+00 | 0.0E+00 | 2.5E+00 |
| University of Missouri Research Reactor | 2.1E-01 | 8.3E-01 | 1.0E+00 |
| Total CH Volumes | 5.8E+04 | 5.4E+04 | 1.1E+05 |

*This table is identical to Table 4-1 in TWBIR Revision 2, page 4-2 (DOE, 1995c).

Table 2-5. WIPP RH-TRU Waste Anticipated Inventory By Site*

| (Cubic Meters) | | | |
|---------------------------------------|----------------|-------------------|---------------------|
| Storage/Generator Site | Stored Volumes | Projected Volumes | Anticipated Volumes |
| Argonne National Laboratory - West | 1.9E+01 | 1.3E+03 | 1.3E+03 |
| Battelle Columbus Laboratories | 5.8E+02 | 0.0E+00 | 5.8E+02 |
| Bettis Atomic Power Laboratory | 0.0E+00 | 6.7E+00 | 6.7E+00 |
| Energy Technology Engineering Center | 8.9E-01 | 0.0E+00 | 8.9E-01 |
| Hanford (Richland) Site | 2.0E+02 | 2.2E+04 | 2.2E+04 |
| Idaho National Engineering Laboratory | 2.2E+02 | 0.0E+00 | 2.2E+02 |
| Los Alamos National Laboratory | 9.4E+01 | 9.9E+01 | 1.9E+02 |
| Oak Ridge National Laboratory | 2.5E+03 | 4.5E+02 | 2.9E+03 |
| Total RH Volumes | 3.6E+03 | 2.3E+04 | 2.7E+04 |
| Total TRU Waste Volumes | 6.2E+04 | 7.7E+04 | 1.4E+05 |

*This table is identical to Table 4-2 in TWBIR Revision 2, page 4-3 (DOE, 1995c).

3. SUPPLEMENTAL DISPOSAL INVENTORY INFORMATION

3.1 INTRODUCTION

This chapter summarizes supplemental information about the WIPP disposal inventory that was requested by SNL/NM in support of WIPP PA either after the publication of Revision 2 of the TWBIR or that was not available from the TRU waste sites at the time of publication of Revision 2 of the TWBIR in December 1995 (DOE, 1995c). Appendices A-1 through A-3 are the three memoranda from SNL/NM requesting supplemental information about the WIPP TRU waste inventory.

The first memorandum from SNL/NM (dated November 6, 1995), entitled "CH and RH-TRU Waste Parameters Potentially Important in WIPP PA" (Appendix A-1), was included as Appendix B in Revision 2 of the TWBIR. This memorandum requested information on certain nonradioactive materials present in the TRU waste (nitrates, sulfates, phosphates, cement, and organic ligands), and also requested information on residues present at TRU waste sites other than Rocky Flats Environmental Technology Site (RFETS). The information on residues was provided in Revision 2 of the TWBIR. However, the remainder of the requested information had to be obtained from the sites after the publication of Revision 2 and is presented in this document.

The second and the third memoranda from SNL/NM (dated January 11 and January 30, 1996), both entitled "Information Needed from TWBIR (Revision 2/Addendum)" (Appendices A-2 and A-3), requested additional information about the WIPP disposal radionuclide inventory. This information is also presented in the main body of this document.

The supplemental information provided to SNL/NM in response to the memoranda referenced above is discussed in the following sections:

- Supplemental Radionuclide Information (Section 3.2)
- Supplemental Information for Other Constituents (Section 3.3)

3.2 SUPPLEMENTAL RADIONUCLIDE INFORMATION

In response to the memoranda requesting radionuclide information (Appendices A-2 and A-3), two sets of radionuclide information were provided in support of WIPP PA (Appendices B-1 and B-2). Appendix B-1 is an update of the WIPP disposal radionuclide inventory presented in Table 3-4 of Revision 2 of the TWBIR, while Appendix B-2 presents preliminary activity calculations for seven radionuclides on a waste stream basis. The memoranda reporting these supplemental data and the details of the methodology for calculations are included in Appendices B-1 and B-2. A summary of the information provided by DOE to SNL/NM and the major assumptions used in deriving portions of the data are presented in Sections 3.2.1 and 3.2.2.

3.2.1 Revised WIPP Disposal Radionuclide Inventory

A revised estimate of the WIPP disposal radionuclide inventory (i.e., Table 3-4 in TWBIR Revision 2) was not specifically requested by SNL/NM in the memoranda included in Appendices A-1 through A-3. However, after the publication of TWBIR Revision 2, new and updated

radionuclide information became available from four sites (Hanford, Oak Ridge National Laboratory [ORNL], RFETS, and Savannah River Site [SRS]). A review of the new information indicated that it may result in considerable changes to the WIPP disposal radionuclide inventory published in Revision 2 of the TWBIR. Therefore, the disposal radionuclide inventory was recalculated on the basis of the new information and the results provided to SNL/NM in a format identical to Table 3-4 in TWBIR Revision 2 (see Table 3-1). The methodology and the assumptions used for recalculation of the radionuclide inventory are identical to those described in TWBIR Revision 2, except that the new radionuclide information from the four sites was incorporated. The new information from the four sites is summarized below:

- Hanford Site reported corrections to the values for Cf-252, Cm-244, and Cm-245 from their earlier submittals for the Integrated Data Base (IDB) (DOE, 1995b).
- Preliminary sludge sampling data were obtained for the ORNL RH-TRU sludges, which showed that the primary uranium isotope present in these sludges is U-238 (not U-235, as reported in their previous IDB submittals). The uranium curies reported for RH-TRU waste in previous ORNL IDB submittals were redistributed based on the preliminary sludge sampling data. This corrected the previously high estimates of U-235 in the ORNL RH-TRU inventory.
- The RFETS provided undecayed yearly activity data for the radionuclides present in the RFETS residues, which enabled activity decay calculations for these radionuclides. This was not provided for in TWBIR Revision 2; therefore the radionuclide activity from these residues could not be decayed.
- The SRS provided a break-up of radionuclide activity data for SRS waste between on-site and off-site waste (i.e., waste from other sites that was shipped to SRS for storage in the early 1970s). The activity from the off-site waste was included in the WIPP disposal radionuclide inventory but excluded from any extrapolations for SRS projected waste under the assumption that there would be no future accumulation of off-site Pu-238 dominant waste at SRS.

Based on the above information, Table 3-1 provides the revised WIPP disposal radionuclide inventory estimated in curies per cubic meter and total curies for each radionuclide for both CH-TRU and RH-TRU waste. The revised stored radionuclide inventory for each site in decayed curies is provided in Appendix C for both CH-TRU and RH-TRU waste. Appendix C includes the effect of all corrections, additions, or revisions to the site radionuclide inventories used to develop Table 3-1 and is an update of Appendix D in TWBIR Revision 2. All numbers in Appendix C are decayed to December 1995 using the Oak Ridge Isotope Generation and Depletion Code (ORIGEN 2) (Croff, 1980; 1983).

Based on the total curies shown in Table 3-1, it is estimated that approximately 98.9 percent of the total CH-TRU curies is contributed by Pu-238, Pu-239, Pu-240, Pu-241, and Am-241. In contrast, approximately 96.5 percent of the total RH-TRU curies is contributed by Cs-137, Sr-90, Ba-137m, Pu-241, and Y-90. Thus, the remaining radionuclides contribute a very small fraction of the total curies for the repository.

In comparison to TWBIR Revision 2, the most significant change in the revised disposal radionuclide inventory shown in Table 3-1 is the decrease in the estimated concentration of Pu-

Table 3-1. WIPP DISPOSAL RADIONUCLIDE INVENTORY FOR THE CCA¹*

| Nuclide | CH-TRU Waste (Ci/m³) | RH-TRU Waste (Ci/m³) | CH-TRU Waste (Total Curies²) | RH-TRU Waste (Total Curies²) |
|----------------|--|--|--|--|
| Ac225 | 1.71E-05 | 1.66E-05 | 2.88E+00 | 1.17E-01 |
| Ac227 | 3.61E-06 | 1.07E-07 | 6.08E-01 | 7.57E-04 |
| Ac228 | 4.43E-06 | 1.10E-05 | 7.47E-01 | 7.77E-02 |
| Ag109m | 9.32E-05 | NR | 1.57E+01 | NR |
| Ag110 | 4.19E-14 | 2.46E-13 | 7.07E-09 | 1.74E-09 |
| Ag110m | 3.15E-12 | 1.85E-11 | 5.31E-07 | 1.31E-07 |
| Am241 | 2.62E+00 | 8.42E-01 | 4.42E+05 | 5.96E+03 |
| Am242 | 1.04E-05 | NR | 1.75E+00 | NR |
| Am242m | 1.04E-05 | NR | 1.75E+00 | NR |
| Am243 | 1.93E-04 | 3.23E-08 | 3.26E+01 | 2.28E-04 |
| Am245 | 7.89E-15 | 4.06E-20 | 1.33E-09 | 2.87E-16 |
| At217 | 1.71E-05 | 1.66E-05 | 2.88E+00 | 1.17E-01 |
| Ba137m | 4.53E-02 | 2.89E+01 | 7.63E+03 | 2.04E+05 |
| Bi210 | 1.52E-05 | 1.01E-09 | 2.55E+00 | 7.16E-06 |
| Bi211 | 3.61E-06 | 1.07E-07 | 6.09E-01 | 7.58E-04 |
| Bi212 | 1.61E-04 | 1.04E-05 | 2.71E+01 | 7.36E-02 |
| Bi213 | 1.71E-05 | 1.66E-05 | 2.88E+00 | 1.17E-01 |
| Bi214 | 6.91E-05 | 5.05E-09 | 1.16E+01 | 3.58E-05 |
| Bk249 | 5.44E-10 | 2.80E-15 | 9.16E-05 | 1.98E-11 |
| Bk250 | 2.59E-16 | NR | 4.37E-11 | NR |

NR = Not reported by sites.

¹Decayed to December 1995.²Total curies estimated by assuming a volume of 168,500 cubic meters for CH-TRU waste and 7,080 cubic meters for RH-TRU waste.³The values for Cf252 and Cm248 are different from the values reported in Attachment A in Appendix B-1 because these incorporate the corrections received from SNL/NM for these isotopes (see Appendix D) after Appendix B-1 was finalized.

* This table is an update of Table 3-4, of TWBIR Revision 2, pages 3-30 through 3-36 (DOE, 1995c)

Table 3-1. WIPP DISPOSAL RADIONUCLIDE INVENTORY FOR THE CCA
(continued)

| Nuclide | CH-TRU Waste (Ci/m ³) | RH-TRU Waste (Ci/m ³) | CH-TRU Waste (Total Curies ²) | RH-TRU Waste (Total Curies ²) |
|--------------------|--------------------------------------|--------------------------------------|--|--|
| C14 | 6.43E-05 | 2.90E-04 | 1.08E+01 | 2.05E+00 |
| Cd109 | 9.31E-05 | NR | 1.57E+01 | NR |
| Cd113m | 1.08E-11 | 7.71E-11 | 1.82E-06 | 5.46E-07 |
| Ce144 | 3.71E-07 | 7.24E-04 | 6.26E-02 | 5.13E+00 |
| Cf249 | 3.81E-07 | 6.31E-07 | 6.42E-02 | 4.47E-03 |
| Cf250 | 1.96E-06 | NR | 3.30E-01 | NR |
| Cf251 | 2.24E-08 | NR | 3.78E-03 | NR |
| Cf252 ³ | 1.44E-05 | 1.82E-04 | 2.43E+00 | 1.29E+00 |
| Cm242 | 6.76E-06 | NR | 1.14E+00 | NR |
| Cm243 | 1.61E-05 | 6.99E-03 | 2.72E+00 | 4.95E+01 |
| Cm244 | 1.87E-01 | 4.45E-02 | 3.15E+04 | 3.15E+02 |
| Cm245 | 6.81E-08 | 2.07E-10 | 1.15E-02 | 1.46E-06 |
| Cm246 | 6.06E-07 | NR | 1.02E-01 | NR |
| Cm247 | 1.91E-14 | NR | 3.21E-09 | NR |
| Cm248 ³ | 2.19E-07 | 2.89E-08 | 3.69E-02 | 2.05E-04 |
| Co58 | 1.81E-18 | 1.75E-15 | 3.05E-13 | 1.24E-11 |
| Co60 | 3.83E-04 | 1.47E+00 | 6.46E+01 | 1.04E+04 |
| Cr51 | NR | 4.29E-10 | NR | 3.04E-06 |
| Cs134 | 7.97E-08 | 2.60E-03 | 1.34E-02 | 1.84E+01 |
| Cs135 | 2.98E-09 | 1.66E-08 | 5.02E-04 | 1.17E-04 |

NR = Not reported by sites.

¹Decayed to December 1995.²Total curies estimated by assuming a volume of 168,500 cubic meters for CH-TRU waste and 7,080 cubic meters for RH-TRU waste.³The values for Cf252 and Cm248 are different from the values reported in Attachment A in Appendix B-1 because these incorporate the corrections received from SNL/NM for these isotopes (see Appendix D) after Appendix B-1 was finalized.

* This table is an update of Table 3-4, of TWBIR Revision 2, pages 3-30 through 3-36 (DOE, 1995c)

Table 3-1. WIPP DISPOSAL RADIONUCLIDE INVENTORY FOR THE CCA
(continued)

| Nuclide | CH-TRU Waste (Ci/m ³) | RH-TRU Waste (Ci/m ³) | CH-TRU Waste (Total Curies ²) | RH-TRU Waste (Total Curies ²) |
|---------|--------------------------------------|--------------------------------------|--|--|
| Cs137 | 4.78E-02 | 3.05E+01 | 8.06E+03 | 2.16E+05 |
| Es254 | 2.51E-16 | NR | 4.24E-11 | NR |
| Eu150 | 2.08E-10 | NR | 3.51E-05 | NR |
| Eu152 | 7.46E-06 | 1.73E-01 | 1.26E+00 | 1.22E+03 |
| Eu154 | 6.80E-06 | 8.34E-02 | 1.15E+00 | 5.91E+02 |
| Eu155 | 5.62E-06 | 1.67E-02 | 9.46E-01 | 1.18E+02 |
| Fe55 | 1.13E-10 | 2.38E-05 | 1.91E-05 | 1.69E-01 |
| Fe59 | 1.57E-12 | NR | 2.64E-07 | NR |
| Fr221 | 1.71E-05 | 1.66E-05 | 2.88E+00 | 1.17E-01 |
| Fr223 | 4.98E-08 | 1.48E-09 | 8.39E-03 | 1.04E-05 |
| H3 | 5.16E-06 | 9.33E-06 | 8.69E-01 | 6.60E-02 |
| I129 | 4.18E-12 | NR | 7.05E-07 | NR |
| Kr85 | 1.20E-06 | 2.37E-04 | 2.02E-01 | 1.68E+00 |
| Mn54 | 5.05E-09 | 3.32E-06 | 8.51E-04 | 2.35E-02 |
| Nb95 | 1.51E-14 | 9.45E-05 | 2.54E-09 | 6.69E-01 |
| Nb95m | 5.04E-17 | 3.17E-07 | 8.50E-12 | 2.24E-03 |
| Ni59 | 4.47E-08 | NR | 7.52E-03 | NR |
| Ni63 | 5.46E-06 | 1.40E-04 | 9.19E-01 | 9.88E-01 |
| Np237 | 3.33E-04 | 4.02E-04 | 5.61E+01 | 2.85E+00 |
| Np238 | 5.20E-08 | NR | 8.77E-03 | NR |

NR = Not reported by sites.

¹Decayed to December 1995.²Total curies estimated by assuming a volume of 168,500 cubic meters for CH-TRU waste and 7,080 cubic meters for RH-TRU waste.³The values for Cf252 and Cm248 are different from the values reported in Attachment A in Appendix B-1 because these incorporate the corrections received from SNL/NM for these isotopes (see Appendix D) after Appendix B-1 was finalized.

* This table is an update of Table 3-4, of TWBIR Revision 2, pages 3-30 through 3-36 (DOE, 1995c)

**Table 3-1. WIPP DISPOSAL RADIONUCLIDE INVENTORY FOR THE CCA
(continued)**

| Nuclide | CH-TRU Waste (Ci/m ³) | RH-TRU Waste (Ci/m ³) | CH-TRU Waste (Total Curies ²) | RH-TRU Waste (Total Curies ²) |
|---------|--------------------------------------|--------------------------------------|--|--|
| Np239 | 1.93E-04 | 3.23E-08 | 3.26E+01 | 2.28E-04 |
| Np240m | 8.91E-12 | 3.12E-15 | 1.50E-06 | 2.21E-11 |
| Pa231 | 2.67E-06 | 2.70E-07 | 4.51E-01 | 1.91E-03 |
| Pa233 | 3.33E-04 | 4.02E-04 | 5.61E+01 | 2.85E+00 |
| Pa234 | 3.05E-07 | 1.92E-06 | 5.14E-02 | 1.36E-02 |
| Pa234m | 2.35E-04 | 1.48E-03 | 3.96E+01 | 1.05E+01 |
| Pb209 | 1.71E-05 | 1.66E-05 | 2.88E+00 | 1.17E-01 |
| Pb210 | 1.52E-05 | 1.01E-09 | 2.55E+00 | 7.16E-06 |
| Pb211 | 3.61E-06 | 1.07E-07 | 6.09E-01 | 7.58E-04 |
| Pb212 | 1.61E-04 | 1.04E-05 | 2.71E+01 | 7.36E-02 |
| Pb214 | 6.91E-05 | 5.05E-09 | 1.16E+01 | 3.58E-05 |
| Pd107 | 4.40E-10 | 2.45E-09 | 7.41E-05 | 1.73E-05 |
| Pm147 | 4.67E-05 | 1.52E-03 | 7.87E+00 | 1.07E+01 |
| Po210 | 1.52E-05 | 1.01E-09 | 2.55E+00 | 7.16E-06 |
| Po211 | 1.01E-08 | 3.00E-10 | 1.71E-03 | 2.12E-06 |
| Po212 | 1.03E-04 | 6.66E-06 | 1.73E+01 | 4.72E-02 |
| Po213 | 1.67E-05 | 1.62E-05 | 2.82E+00 | 1.15E-01 |
| Po214 | 6.91E-05 | 5.05E-09 | 1.16E+01 | 3.57E-05 |
| Po215 | 3.61E-06 | 1.07E-07 | 6.09E-01 | 7.58E-04 |
| Po216 | 1.61E-04 | 1.04E-05 | 2.71E+01 | 7.36E-02 |

NR = Not reported by sites.

¹Decayed to December 1995.²Total curies estimated by assuming a volume of 168,500 cubic meters for CH-TRU waste and 7,080 cubic meters for RH-TRU waste.³The values for Cf252 and Cm248 are different from the values reported in Attachment A in Appendix B-1 because these incorporate the corrections received from SNL/NM for these isotopes (see Appendix D) after Appendix B-1 was finalized.

* This table is an update of Table 3-4, of TWBIR Revision 2, pages 3-30 through 3-36 (DOE, 1995c)

Table 3-1. WIPP DISPOSAL RADIONUCLIDE INVENTORY FOR THE CCA
(continued)

| Nuclide | CH-TRU Waste (Ci/m ³) | RH-TRU Waste (Ci/m ³) | CH-TRU Waste (Total Curies ²) | RH-TRU Waste (Total Curies ²) |
|---------|--------------------------------------|--------------------------------------|--|--|
| Po218 | 6.91E-05 | 5.05E-09 | 1.16E+01 | 3.58E-05 |
| Pr144 | 3.67E-07 | 7.16E-04 | 6.18E-02 | 5.07E+00 |
| Pu236 | 6.16E-08 | NR | 1.04E-02 | NR |
| Pu238 | 1.55E+01 | 2.05E-01 | 2.61E+06 | 1.45E+03 |
| Pu239 | 4.66E+00 | 1.45E+00 | 7.85E+05 | 1.03E+04 |
| Pu240 | 1.25E+00 | 7.15E-01 | 2.10E+05 | 5.07E+03 |
| Pu241 | 1.37E+01 | 2.00E+01 | 2.31E+06 | 1.42E+05 |
| Pu242 | 6.96E-03 | 2.11E-05 | 1.17E+03 | 1.50E-01 |
| Pu243 | 1.91E-14 | NR | 3.21E-09 | NR |
| Pu244 | 8.92E-12 | 3.12E-15 | 1.50E-06 | 2.21E-11 |
| Ra223 | 3.61E-06 | 1.07E-07 | 6.09E-01 | 7.58E-04 |
| Ra224 | 1.61E-04 | 1.04E-05 | 2.71E+01 | 7.36E-02 |
| Ra225 | 1.71E-05 | 1.66E-05 | 2.88E+00 | 1.17E-01 |
| Ra226 | 6.91E-05 | 5.05E-09 | 1.16E+01 | 3.58E-05 |
| Ra228 | 4.43E-06 | 1.10E-05 | 7.47E-01 | 7.77E-02 |
| Rh106 | 1.72E-07 | 1.54E-03 | 2.90E-02 | 1.09E+01 |
| Rn219 | 3.61E-06 | 1.07E-07 | 6.09E-01 | 7.58E-04 |
| Rn220 | 1.61E-04 | 1.04E-05 | 2.71E+01 | 7.36E-02 |
| Rn222 | 6.91E-05 | 5.05E-09 | 1.16E+01 | 3.58E-05 |
| Ru106 | 1.72E-07 | 1.54E-03 | 2.90E-02 | 1.09E+01 |

NR = Not reported by sites.

¹Decayed to December 1995.²Total curies estimated by assuming a volume of 168,500 cubic meters for CH-TRU waste and 7,080 cubic meters for RH-TRU waste.³The values for Cf252 and Cm248 are different from the values reported in Attachment A in Appendix B-1 because these incorporate the corrections received from SNL/NM for these isotopes (see Appendix D) after Appendix B-1 was finalized.

* This table is an update of Table 3-4, of TWBIR Revision 2, pages 3-30 through 3-36 (DOE, 1995c)

**Table 3-1. WIPP DISPOSAL RADIONUCLIDE INVENTORY FOR THE CCA
(continued)**

| Nuclide | CH-TRU Waste (Ci/m³) | RH-TRU Waste (Ci/m³) | CH-TRU Waste (Total Curies²) | RH-TRU Waste (Total Curies²) |
|----------------|--|--|--|--|
| Sb125 | 7.17E-07 | 2.67E-04 | 1.21E-01 | 1.89E+00 |
| Sb126 | 8.02E-10 | 4.46E-09 | 1.35E-04 | 3.16E-05 |
| Sb126m | 5.73E-09 | 3.18E-08 | 9.65E-04 | 2.25E-04 |
| Se79 | 2.58E-09 | 1.44E-08 | 4.35E-04 | 1.02E-04 |
| Sm151 | 8.72E-06 | 5.05E-05 | 1.47E+00 | 3.57E-01 |
| Sn119m | 2.46E-11 | 1.35E-10 | 4.14E-06 | 9.59E-07 |
| Sn121m | 1.58E-07 | 9.45E-07 | 2.66E-02 | 6.69E-03 |
| Sn126 | 5.73E-09 | 3.18E-08 | 9.65E-04 | 2.25E-04 |
| Sr90 | 4.07E-02 | 2.95E+01 | 6.85E+03 | 2.09E+05 |
| Ta182 | NR | 5.95E-12 | NR | 4.21E-08 |
| Tc99 | 1.49E-04 | 8.26E-07 | 2.52E+01 | 5.85E-03 |
| Te125m | 1.75E-07 | 6.57E-05 | 2.95E-02 | 4.65E-01 |
| Te127 | 7.72E-13 | 2.41E-13 | 1.30E-07 | 1.71E-09 |
| Te127m | 7.88E-13 | 2.47E-13 | 1.33E-07 | 1.75E-09 |
| Th227 | 3.56E-06 | 1.06E-07 | 6.01E-01 | 7.47E-04 |
| Th228 | 1.61E-04 | 1.04E-05 | 2.71E+01 | 7.36E-02 |
| Th229 | 1.71E-05 | 1.66E-05 | 2.88E+00 | 1.17E-01 |
| Th230 | 4.78E-07 | 1.07E-06 | 8.06E-02 | 7.56E-03 |
| Th231 | 7.59E-05 | 6.53E-04 | 1.28E+01 | 4.63E+00 |
| Th232 | 5.42E-06 | 1.31E-05 | 9.13E-01 | 9.25E-02 |

NR = Not reported by sites.

¹Decayed to December 1995.²Total curies estimated by assuming a volume of 168,500 cubic meters for CH-TRU waste and 7,080 cubic meters for RH-TRU waste.³The values for Cf252 and Cm248 are different from the values reported in Attachment A in Appendix B-1 because these incorporate the corrections received from SNL/NM for these isotopes (see Appendix D) after Appendix B-1 was finalized.

* This table is an update of Table 3-4, of TWBIR Revision 2, pages 3-30 through 3-36 (DOE, 1995c)

**Table 3-1. WIPP DISPOSAL RADIONUCLIDE INVENTORY FOR THE CCA
(continued)**

| Nuclide | CH-TRU Waste (Ci/m³) | RH-TRU Waste (Ci/m³) | CH-TRU Waste (Total Curies²) | RH-TRU Waste (Total Curies²) |
|----------------|--|--|--|--|
| Th234 | 2.35E-04 | 1.48E-03 | 3.96E+01 | 1.05E+01 |
| Ti207 | 3.61E-06 | 1.07E-07 | 6.07E-01 | 7.56E-04 |
| Ti208 | 5.77E-05 | 3.74E-06 | 9.73E+00 | 2.65E-02 |
| Ti209 | 3.69E-07 | 3.58E-07 | 6.22E-02 | 2.53E-03 |
| U232 | 1.53E-04 | NR | 2.58E+01 | NR |
| U233 | 1.06E-02 | 2.23E-02 | 1.79E+03 | 1.58E+02 |
| U234 | 2.76E-03 | 6.03E-03 | 4.65E+02 | 4.27E+01 |
| U235 | 7.59E-05 | 6.53E-04 | 1.28E+01 | 4.63E+00 |
| U236 | 1.98E-06 | 1.37E-05 | 3.33E-01 | 9.68E-02 |
| U237 | 3.36E-04 | 4.91E-04 | 5.66E+01 | 3.48E+00 |
| U238 | 2.35E-04 | 1.48E-03 | 3.96E+01 | 1.05E+01 |
| U240 | 8.91E-12 | 3.12E-15 | 1.50E-06 | 2.21E-11 |
| Y90 | 4.07E-02 | 2.95E+01 | 6.85E+03 | 2.09E+05 |
| Zr93 | 3.34E-08 | 1.86E-07 | 5.63E-03 | 1.32E-03 |
| Zr95 | 6.80E-15 | 4.27E-05 | 1.15E-09 | 3.02E-01 |
| TOTALS | 3.81E+01 | 1.43E+02 | 6.42E+06 | 1.02E+06 |

NR = Not reported by sites.

¹Decayed to December 1995.

²Total curies estimated by assuming a volume of 168,500 cubic meters for CH-TRU waste and 7,080 cubic meters for RH-TRU waste.

³The values for Cf252 and Cm248 are different from the values reported in Attachment A in Appendix B-1 because these incorporate the corrections received from SNL/NM for these isotopes (see Appendix D) after Appendix B-1 was finalized.

*This table is an update of Table 3-4, of TWBIR Revision 2, pages 3-30 through 3-36 (DOE, 1995c)

238 for the CH-TRU waste in the repository. This is primarily due to the exclusion of the SRS off-site waste from any future extrapolations. Since this off-site waste has a high concentration of Pu-238, excluding it from the extrapolations decreases the amount of Pu-238 in the projected portion of the inventory. It should be noted that this off-site waste is included in the stored waste portion of the disposal radionuclide inventory. The decrease in the Pu-238 also causes a decrease in the total estimated curies for CH-TRU waste in the repository.

Based on the data corrections from Hanford Site to the Cm-244 and Cm-245 inventories, the estimated concentration of Cm-244 has increased, while that of Cm-245 has decreased. Similarly, based on the correction to the reported value of Cf-252 from the Hanford Site, the revised concentration of Cf-252 has decreased significantly from the values estimated in Revision 2 of the TWBIR. The effect of decaying the activity from the RFETS residues has resulted in a minor decrease in the estimated concentration of Pu-241. Since Pu-241 decays to Am-241, the decrease in the Pu-241 concentration is also accompanied by a corresponding increase in the concentration of Am-241.

The major change for the RH-TRU waste from TWBIR Revision 2 is the decrease in the estimated concentration of U-235 and an increase in the concentration of U-238. Both are a result of the preliminary sludge sampling data from ORNL mentioned earlier.

3.2.2 Activity Calculations for Waste Streams

As documented in the SNL/NM memoranda in Appendices A-2 and A-3, data on radionuclide activity on a waste stream basis was requested for 21 radionuclides. However, the request was subsequently limited to seven radionuclides by SNL/NM WIPP PA staff (Am-241, Cm-244, Pu-238, Pu-239, Pu-240, Pu-241, and U-234). Appendix B-2 presents the results provided to SNL/NM by DOE/CAO in response to this data request.

Since many sites did not have the ability to provide radionuclide data on a detailed waste stream basis for every waste stream in TWBIR Revision 2, the radionuclide activities for many individual waste streams (especially for projected waste) were not reported by the sites for TWBIR Revision 2. Therefore, the radionuclide activity data for the WIPP disposal inventory cannot be directly obtained on a waste stream basis by running queries on the TWBIR Revision 2 database. Due to the unavailability of detailed radionuclide data on a waste stream basis for many waste streams, the WIPP disposal radionuclide inventory presented in all revisions of the TWBIR has always been developed on the basis of the site-level radionuclide inventories reported by the sites in the IDB.

For the sake of consistency with the revised WIPP disposal radionuclide inventory in Attachment A of Appendix B-1 (which is also based on the site-level IDB data), assumptions were required in order to estimate the waste stream radionuclide activities presented in Appendix B-2. These assumptions can be found in Appendix B-2 and are not reproduced here. Thus, it should be noted that the data in Appendix B-2 are *derived* on the basis of assumptions and not directly obtainable from the TWBIR Revision 2 database. Because of the unavailability of the radionuclide data on a waste stream basis, some of the waste streams from small sites are not included in the activity table in Appendix B-2. Efforts are currently underway to ensure that the sites will be able to provide radionuclide data on a waste stream basis for most waste streams in future updates of the TWBIR so that radionuclide activity data for the WIPP disposal inventory can be directly obtained from the TWBIR database.

3.3 SUPPLEMENTAL INFORMATION FOR OTHER CONSTITUENTS

SNL/NM and DOE/CAO requested supplemental information on several constituents in TRU waste (see Appendix A-1) that were not able to be estimated based on the information reported by the TRU waste sites in Revision 2 of the TWBIR (DOE, 1995c). The information requested can be divided into three general categories which were requested on solidified waste forms destined for disposal in WIPP:

- Complexing Agents
- Nitrate, Sulfate, and Phosphate
- Cement

The TWBIR team worked with those major sites that generate/store most of the solidified waste forms: Los Alamos National Laboratory (LANL), RFETS/INEL, and ORNL. A summary of the results of these supplemental information requests is provided in Section 3.3.1, 3.3.2 and 3.3.3 and the memoranda reporting the data are located in Appendices B-3 through B-7. The detailed methodology for calculating the estimates of these physical/chemical constituents are provided in each memorandum in these Appendices.

3.3.1 Estimate of Complexing Agents in Transuranic Solidified Waste Forms Scheduled for Disposal in WIPP

The information on complexing agents in the waste was provided in a series of three memoranda to DOE/CAO. The initial memorandum, entitled "Preliminary Estimate of Complexing Agents in TRU Waste Forms Scheduled for Disposal in WIPP," provided in Appendix B-3, represents the earliest estimate of complexing agents in the TRU Waste. The Appendix B-3 memorandum was superseded by the second estimate, entitled "Current Estimate of Complexing Agents in Transuranic Solidified Waste Forms Scheduled for Disposal in WIPP," provided in Appendix B-4. After the Appendix B-4 memorandum was issued, preliminary information from the January 1996 data submittal from INEL was received. The data submittal indicated that over 90% of the stored waste at INEL would be vitrified, a process that should destroy complexing agents in TRU waste. Based on the preliminary data from INEL, the estimated amount of complexing agents due to RFETS waste stored at INEL could be reduced from that reported in Appendix B-4. A synopsis of the INEL information is reported in the third memorandum that estimates complexing agents in the waste, entitled "Revision of Current Estimate of Complexing Agents in Transuranic Solidified Waste Forms Scheduled for Disposal in WIPP," provided in Appendix B-5.

Table 3-2 provides a summary of the anticipated mass (in kilograms) of complexing agents in TRU waste reported by RFETS/INEL, LANL, and Hanford. The estimates in Table 3-2 include the anticipated reduction in mass of complexing agents reported from RFETS/INEL based on the preliminary data for proposed vitrification of waste at INEL (Appendix B-5). In addition to the mass of complexing agents reported in Table 3-2, ORNL has provided an estimate of total organic carbon (TOC) in their RH-TRU sludges (Table 3-3). ORNL does not have any analytical data to quantitatively estimate which organic chemicals are responsible for the TOC content of the sludges. However, ORNL has provided a list of chemicals, summarized in Table 3-3, that could contribute to the TOC value reported (see Table 1 in Appendix B-4). It is estimated that most of the TOC in the tanks is not associated with complexing agents, but that has not been verified at this time. As a conservatism, PA calculations can assume that any complexing agents listed in Table 3-3 could form the bulk of the TOC in the ORNL RH-TRU tanks.

Table 3-2. Estimates of Complexing Agents in Transuranic Waste from RFETS, INEL, LANL, and Hanford*

| Compound | Low Estimate (kg) | Recommended Estimate (kg) | High Estimate (kg) |
|---|-------------------|---------------------------|--------------------|
| Ascorbic Acid | 18 | 30 | 34 |
| Acetic Acid | 27 | 44 | 50 |
| Sodium Acetate | 141 | 282 | 333 |
| Citric Acid | 1110 | 1120 | 1130 |
| Sodium Citrate | 51 | 102 | 120 |
| Oxalic Acid | 13700 | 13700 | 13700 |
| EDTA | 3 | 6 | 7 |
| 8-Hydroxyquinoline | 6 | 12 | 14 |
| Tributyl Phosphate | 102 | 111 | 115 |
| 1,10 Phenanthroline | 0.03 | 0.06 | 0.07 |
| Dihexyl-n,n-diethyl carbamoylmethyl phosphonate | 9 | 18 | 22 |

* Refer to Appendices B-4 and B-5 for methodology of calculated estimates.

Table 3-3. Estimate of Total Organic Carbon (TOC) in ORNL Transuranic Sludge Tanks and Possible Complexing Agents that can Contribute to TOC.

| |
|--|
| Total Organic Carbon in ORNL Transuranic Sludge = 3691 kg |
|--|

Possible Complexing Agents and Other Organic Compounds* in ORNL RH-TRU Sludges:

Acetic Acid
Acetone
Adogen-364-HP (~ triluarylamine)
Carbon tetrachloride
Deodorized mineral spirits (Amsco)
2,5-di-tert-butylhydroquinone (DBHQ)
Diethylbenzene (DEB)
Diethylenetriaminepentaacetic acid (DPTA)
Di (2-ethylhexyl) phosphoric acid (HDEHP)
Di-isopropylbenzene (DIPB)
Ethanol
Ether
Ethylenediaminetetraacetic acid (EDTA)
2-ethyl-1-hexanol
 α -hydroxyisobutyric acid
Isopropanol
Methanol
n-dodecane
n-paraffin (NPH)
Oxalic Acid
Thenoyltrifluoroacetone (TTA)
Tributylphosphate (TBP)
Trichloroethylene (TCE)
Xylene

*Adapted from Table 1 in Appendix B-4.

3.3.2 Estimate of Nitrate, Sulfate, and Phosphate Content in Transuranic Solidified Wastes for Disposal in WIPP

Estimates of nitrate and sulfate in solidified TRU final waste forms were provided in the memorandum entitled "Preliminary Estimate for SNL/NM Performance Assessment Calculations of Nitrate, Sulfate, and Phosphate in Transuranic Solidified Wastes Destined for Disposal in WIPP," provided in Appendix B-6. In that memorandum, it is estimated that densities for the overall disposal inventory are as follows: 9.2 kilograms/cubic meter for nitrate and 3.6 kilograms/cubic meter for sulfate. No estimate of phosphate was reported due to lack of sufficient information.

3.3.3 Estimate of Cement in TRU Solidified Waste Forms for Disposal in WIPP

An estimate of cement (portland-based) in solidified TRU final waste forms was calculated in the memorandum entitled "Estimate of Cement Content in TRU Solidified Waste Forms Scheduled for Disposal in WIPP," provided in Appendix B-7. The estimated density of cement over the entire disposal inventory is 48.6 kilogram/cubic meter. This estimate includes both CH-TRU and RH-TRU final waste forms. The portland cement reported is both reacted and unreacted cement in the waste. There are no data available to estimate the percentage of reacted versus unreacted cement in the waste.

4. REFERENCES

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U.S. Environmental Protection Agency, 1993, *Environmental Radiation Protection Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes*, 40 CFR 191, Final Rule, Federal Register, Vol. 58, Page 66398, December 20, 1993.

U.S. Environmental Protection Agency, 1980, *Listing of Hazardous Waste*, 40 Code of Federal Regulations, Part 261, May 19, 1980.

5. GLOSSARY

40 CFR Part 191, Protection of Environment. EPA: Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes – The EPA's environmental standards for the storage (Subpart A) and disposal (Subpart B) of spent nuclear fuel, and high-level and TRU radioactive wastes. This is the primary post-closure standard that applies to WIPP.

Anticipated Inventory – The sum of the stored and projected inventories, as defined in this document.

As-Generated Waste – The chemical and physical status of waste when it is generated.

Buried Waste – TRU waste buried in shallow trenches prior to the 1970 Atomic Energy Commission policy that required TRU waste to be retrievably stored.

Code of Federal Regulations (CFR) – (1) A codification of the general and permanent rules published in the **Federal Register** by the department and agencies of the federal government. The CFR is divided into 50 titles that represent broad areas subject to federal regulation. It is issued quarterly and revised annually. (2) All federal regulations in force are published annually in codified form in the CFR.

Contact-Handled (CH) TRU Waste – Packaged TRU wastes with an external surface dose rate of less than 200 mrem per hour.

Defense Waste – (1) Radioactive waste from any activity performed in whole or in part in support of DOE atomic energy defense activities; excludes waste under purview of the Nuclear Regulatory Commission or generated by the commercial nuclear power industry. (2) Nuclear waste derived mostly from the manufacture of nuclear weapons, weapons-related research programs, the operation of naval reactors, and the decontamination of nuclear weapons production facilities.

Department of Energy Site – A DOE-owned or -controlled tract used for DOE operations. Either a tract owned by DOE or a tract leased or otherwise made available to the federal government under terms that afford to DOE rights of access and control substantially equal to those that DOE would possess if it were the holder of the fee (or pertinent interest therein) as agent of and on behalf of the government. One or more DOE operations/program activities are carried out within the boundaries of the described tract.

Disposal – Emplacement of waste in a manner that assures isolation from the biosphere for the foreseeable future with no intent of retrieval and that requires deliberate action to regain access to the waste. For example, disposal of wastes in a mined geologic repository occurs when all of the shafts to the repository area are backfilled and sealed.

Disposal Inventory – The inventory volume defined for WIPP emplacement to be used for PA calculations is the "disposal inventory." The LWA defines the total amount of TRU waste allowed in the WIPP as 6,200,000 cubic feet (approximately 176,000 cubic meters) (Public Law, 1992b). The "Agreement for Consultation and Cooperation" (C&C Agreement) limits the RH-TRU inventory to 250,000 cubic feet (approximately 7,080 cubic meters) (DOE and State of New

Mexico, 1981). Therefore by difference, the CH-TRU inventory is limited to 5,950,000 cubic feet (approximately 168,500 cubic meters).

Final Waste Form – Consists of a series of WMCs that for PA purposes have similar physical and chemical properties.

Integrated Data Base (IDB) – The latest version of the IDB, the *Integrated Data Base for [1995]: U.S. Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics* (DOE, 1995b).

Land Withdrawal Act - The 1992 legislation passed by the U.S. Congress withdrawing the surface land and underlying minerals at the WIPP site from public use, transferring the property from the DOI to the DOE, and enabling the start of the WIPP Test Phase. The LWA sets prerequisites to be met before the start of the Test Phase, such as the repromulgation by EPA of 40 CFR 191 and the concurrence of EPA with the Test Phase Plan (Public Law, 1992b).

Mixed TRU Waste – TRU waste that contains both radioactive and hazardous components as defined by the Atomic Energy Act and the RCRA as codified in 40 CFR Parts 261.3 (EPA, 1980).

Newly Generated Wastes – See Projected Inventory.

Performance Assessment (PA) – (1) A systematic analysis of the potential risks posed by waste management systems to the public and environment and a comparison of those risks to established performance objectives. (2) An analysis that (a) identifies the processes and events that might affect the disposal system, (b) examines the effects of these processes and events on the performance of the disposal system, and (c) estimates the cumulative releases of radionuclides, considering the associated uncertainties, caused by all significant processes and events. These estimates shall be incorporated into an overall probability distribution of cumulative release to the extent practicable. (3) A term used to denote all activities (qualitative and quantitative) carried out to (a) determine the long-term ability of a site/facility to effectively isolate the waste and ensure the long-term health and safety of the public and (b) provide the basis for demonstrating regulatory compliance.

Projected Inventory – That part of the inventory that has not been generated but is estimated to be generated at some time in the future by the TRU waste generator/storage sites. The estimated timeframe may vary, but is usually between 20 and 30 years. "Newly generated waste" also is sometimes used as a synonym for the projected inventory.

Radioactive – Term used to refer to an unstable atomic nucleus that decays with the spontaneous emission of ionizing radiation (also see "radionuclide").

Radionuclide – (1) A species of atom having an unstable nucleus, that is subject to spontaneous decay or disintegration and usually accompanied by the emission of ionizing radiation. (2) Any nuclide that emits radiation. A nuclide is a species of atom characterized by the constitution of its nucleus and hence by the number of protons, the number of neutron, and the energy content.

Remote-Handled (RH) TRU Waste – Packaged TRU wastes with an external surface dose rate equal to or exceeding 200 mrem per hour.

Resource Conservation and Recovery Act (RCRA) – (1) Establishes a system for controlling hazardous waste from generation to disposal. (2) A Federal law passed in 1976, and amended under the HSWA of 1984, that established a structure to track and regulate hazardous wastes from the time of generation to disposal. The law requires safe and secure procedures to be used in treating, handling, transporting, storing, and disposing of hazardous substances. RCRA is designed to prevent new uncontrolled hazardous waste sites. The law also regulates the disposal of solid waste that may not be considered hazardous. (3) Specifically, Subtitle D of RCRA governs the management of solid waste. (Note: 40 CFR Parts 260-272 are the regulations for complying with RCRA with respect to hazardous waste and hazardous waste treatment, storage, and disposal facilities.)

Scaling – The process for adjusting the anticipated inventory to equal the maximum authorized disposal inventory of the WIPP repository for the purposes of WIPP performance assessment modeling.

Stored Inventory – That part of the TRU waste inventory currently in retrievable storage as of the time of the last data call for inventory information. Retrievably stored waste includes waste stored in buildings or in berms with earthen cover since 1970 and does not include any waste that was buried prior to 1970. Stored inventory can be in the "as-generated" form or "final waste form."

Transuranic – Pertaining to elements that have atomic numbers greater than 92, including neptunium, plutonium, americium, and curium; all are radioactive, are not naturally occurring, and are members of the actinide group.

Transuranic (TRU) Waste – (1) Waste containing alpha-emitting radionuclides with an atomic number greater than 92 and half-lives greater than 20 years, at concentrations of TRU isotopes greater than 100 nanocuries per gram of waste. **This core definition appears in modified form in various relevant documents as follows:** (a) For purposes of management, DOE Order 5820.2A: (i) considers TRU waste, as defined above, "without regard to source or form" (*The proposed revision to the Order [DOE Order 5820.2A Major Issues for Revision, May 6, 1992] contemplates removing this clause*); (ii) allows head of field elements to determine that wastes containing other alpha-emitting radionuclides must be managed as TRU waste; and (iii) adds "at time of assay," implying both that the classification of a waste as TRU waste is to be made based on an assay, and that such classification can be superseded only by another assay. (b) For purposes of setting standards for management and disposal, 40 CFR 191.02(i) adds "except for: (i) high-level wastes; (ii) wastes that the DOE has determined, with the concurrence of the EPA Administrator, do not need the degree of isolation required by this part; or (iii) wastes that the Nuclear Regulatory Commission has approved for disposal on a case-by-case basis in accordance with 10 CFR 61." (2) Waste materials contaminated with U-233 (and its daughter products), with certain isotopes of plutonium, or with other nuclides with atomic numbers greater than 92. In order to be classified as TRU waste, the long-lived alpha activity from subject isotopes must exceed 100 nanocuries per gram of waste material independent of the level of beta-gamma activity. These wastes are produced primarily from reprocessing spent fuel and from the use of plutonium in the fabrication of nuclear weapons. (3) Wastes that are contaminated with radioactive elements heavier than uranium, thus the name trans-(or beyond) uranic.

Waste Acceptance Criteria (WAC) – The criteria used to determine if waste packages are acceptable. For the purposes of this document, WAC refers to WIPP WAC.

Waste Form – The physical form of the waste such as sludges, combustibles, metals, etc.

TRU Waste Sites – The 8 major DOE facilities and several smaller sites throughout the U.S. that generate and store TRU waste.

Waste Isolation Pilot Plant (WIPP) – (1) The project authorized under Section 213 of the DOE National Security and Military Applications of Nuclear Energy Authorization Act of 1980 (Public Law, 1979) to demonstrate the safe and environmentally sound disposal of radioactive waste materials generated by atomic energy defense activities. (2) A research and development facility located near Carlsbad, New Mexico to be used to demonstrate a practical, long-term solution to a complex problem: the safe disposal in deep geologic repositories of TRU waste resulting from DOE activities.

Waste Material Parameter – A waste material that occurs in TRU waste that is an input parameter into one (or more) current PA model(s) or is required to adequately describe the waste form.

Waste Matrix Code (WMC) – A DOE-developed coding system for grouping waste streams that have similar matrix constituents, especially for treatment objectives. This coding system allows waste streams within the DOE TRU waste system that have similar physical and chemical waste form properties to be categorized together. WMCs also have been called "waste treatability codes" in other DOE documents. An example of a WMC for "heterogeneous waste" is 5400 (DOE, 1995a).

Waste Stream – A flow of waste materials with specific definable characteristics that remain the same throughout the life of the process generating the waste stream.

Waste Stream Profile – A description of a CH-TRU or RH-TRU waste stream destined for shipment to and disposal in WIPP, if authorized under permits and certifications by appropriate regulatory agencies for disposal in the WIPP repository. The waste stream profile is presented in tabular format and is intended to provide a summary of the important information about a particular waste stream.

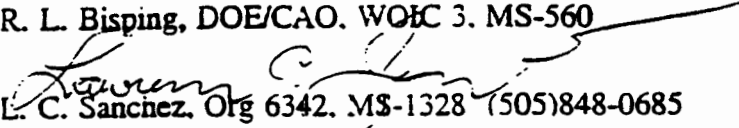
WIPP Waste Profile – Represents a summary of TRU waste at all DOE TRU waste generator/storage sites that have an identical Final Waste Form.

APPENDIX A

APPENDIX A - 1

Sandia National Laboratories

Managed and Operated by Sandia Corporation
a Lockheed Martin Company
Albuquerque, New Mexico 87185-1328

date : November 6, 1995
to : R. L. Bisping, DOE/CAO, WOIC 3, MS-560
from :  L. C. Sanchez, Org 6342, MS-1328 (505)848-0685
subject : CH and RH-TRU Waste Parameters Potentially Important in WIPP PA

A) Requested PA Data From TWBIR

Below you will find an updated list of waste material parameters that have been identified as being potentially important to the performance analysis of the WIPP repository. It is requested that these parameters be supplied in Rev. 2 of the Transuranic Waste Baseline Inventory Report (TWBIR). Itemized below you will find the two categories of requested waste parameter data.

1) Non-radioactive Materials

The non-radioactive materials are those which influence gas generation potential and those that are needed for mechanical models which predict waste consolidation and shear strength properties. The list of the non-radioactive materials is shown in Table 1.

2) Radionuclide

At this time there are no new requests for additional radionuclide inventory data beyond those previously reported in Rev. 1 of the TWBIR. If there are significant inventory increases in radionuclides due to special circumstances (such as inclusion of residues to the TRU inventory), sufficient footnote explanations should be supplied.

Table 1. Justification of TWBIR Nonradioactive Waste Parameters.

| Waste Parameter | Input Variable in Current PA Models | | Input Variable in PA Models Under Development | Input Variable in Possible Future PA Models |
|--------------------------------------|-------------------------------------|----------------------------|---|---|
| | Gas Generation | Mechanical Characteristics | | |
| Iron-Based Metals and Alloys | X | X | X | X |
| Aluminum-Based Metals and Alloys (a) | | X | X | |
| Other Metals | | X | | ? |
| Other Inorganics | | X | | ? |
| Cellulosics | X | X | X | X |
| Plastics | ½ (b) | X | X (d) | X |
| Rubbers | ½ (b) | X | X (e) | X |
| Solidified Inorganics | | X | X | X |
| Solidified Organics Matrix | | X | X | X |
| Soils (c) | | X | ? | ? |

(a) Future model for PA does not include aluminum.

(b) Only one-half of material is assumed to generate gas.

(c) May impact colloids.

(d) As is.

(e) Percentage of material to generate gas is unknown at the present time.

B) Special Request Non-PA Items

Also wanted at this time is additional information for several waste material characteristics. Although these characteristics have not been identified as waste material parameters to be used for WIPP PA, they are needed for non-PA scoping calculations to assess their influence on PA. Since these items are not currently PA parameters, inventory estimates of these characteristics as "additional information" in the TWBIR or supplied outside of the TWBIR via written correspondence. Below you will find an itemized list of these special request items.

1) Non-radioactive Materials

Additional information is needed on the five waste material characteristics (see Table 2): 1) vitrified wastes, 2) nitrates (NO_3^-), 3) sulfates (SO_4^{2-}), 4) phosphorus, and 5) cement. Of these waste parameters, the last four are needed for the gas generation modeling. The nitrates and the sulfates are involved in the denitrification and sulfate reduction processes which breakup the cellulose, while the phosphorus is a nutrient for biodecay of cellulose. The estimate of the mass quantities of cement in the waste inventory should include both the cement that is contained in the waste as cement itself (due to D&D activities, etc..) and the cement found in various sludges. Cement consumes CO_2 due to its content of $Ca(OH)_2$. The estimates for this non-radioactive waste constituent need only be "best estimates" at this present time so that non-PA scoping calculations can be made to determine their importance on overall repository performance. (Do not generate upper-bound estimates that are overly conservative.)

2) Residues

"Best estimates" are needed for residues, in addition to those already identified at the Rocky Flats Plant (RFP), that have the possibility of being changed from a resource category to a TRU waste category.

3) Organic Ligands (Chelating Agents)

"Best estimates", from currently available information, are needed for major water-soluble organic ligands which are under consideration for the actinide source term (see Table 3). If it is not possible to obtain data from major waste generating sites then supply guidance on how a first-order estimate may be made (from existing information such as process knowledge etc..) so that non-PA scoping calculations can be performed to identify if the presence of these ligands would have any significant impacts. (Do not generate estimates that are overly conservative.) Requested data is for final form "process-level" quantities used in production only for the key sites. If information on the "process-level" values does not exist at the key sites, then "laboratory-scale" values should be used in the requested assessment of the inventory. Should it be determined that more detailed information on organic ligands will be needed, you will be given a specific written request at a future time. This effort should be performed in parallel with the TWBIR. Technical data should be supplied in memorandum form by the end of February 1996 with supporting documentation by the end of March 1996.

**Table 2. Justification of Special Request Non-PA
Non-Radioactive Waste Materials. (a)**

| Waste Parameter | Input Variable in Current PA Models | | Input Variable in PA Models Under Development | Input Variable in Possible Future PA Models |
|---------------------|--|-------------------------------|--|--|
| | Gas Generation | Mechanical Characteristics | | |
| Vitrified (b) | | X | ? | ? |
| Nitrates (NO_3) | X (c) | | X | ? |
| Sulfates (SO_4) | X (c) | | X | ? |
| Phosphorus | X (c) | | X | ? |
| Cement (d) | X | | X | ? |

- (a) Information on these additional waste materials are needed for non-PA scoping calculations for assessment of their importance. These waste characteristics can be reported at the "best estimate" level.
- (b) New waste parameter corresponding to treatment, identified by some of the sites, to be anticipated in the future.
- (c) Input variable is of concern when predicting the rates of microbial action and is used in currently existing reaction path model, which will not become a baseline PA model.
- (d) Any concrete or cement (including dry portland cement) that contains calcium oxide.

**Table 3. Justification of Special Request For Info
On Organic Complexing Agents. (a)**

| Ligand (b) | Discussion (c) |
|--|---|
| 1) Total Complexants | The most valuable information at this time is a "best estimate" of the total amount of water soluble complexing agents (ligands) in the TRU waste matrix. |
| 2) Citrate | Preliminary information indicates that citrate (citric acid) may be the largest used ligand at TRU waste generating sites. Hence, inventory quantities are very important. |
| 3) Lactate | This is an important ligand that is produced by bacteria as part of its own metabolism. What is requested here is a "best estimate" of the quantity of lactate that actually exists in the TRU waste matrix (not just an initial amount supplied as part of a waste stream). However, if this information cannot be developed, then supply information on the initial amount. |
| 4) Oxalate | This is an important ligand that is produced by bacteria as part of its own metabolism. What is requested here is a "best estimate" of the quantity of oxalate that actually exists in the TRU waste matrix (not just an initial amount supplied as part of a waste stream). However, if this information cannot be developed, then supply information on the initial amount. |
| 5) EDTA | This ligand (ethylenediaminetetraacetic acid) is also of major importance due to its common use as a cleaning solvent. |
| <p>(a) Information on these additional waste materials are needed for non-PA scoping calculations for assessment of their importance. The presence of these complexing agents are important for the actinide source term, with respect to increasing the solubility of radionuclides.</p> <p>(b) These items are ranked in the order of their importance in the actinide source term.</p> <p>(c) Also supply any available information that TRU waste generation sites may have on the degradation or decay rates of ligands in current (and expected) waste matrixes if possible. In cases where no information is available, supply guidance on estimating first-order quantities.</p> | |

LCS:6741:lcs/(95-2082)

Copy to:

P.E. Drez [Drez Environmental Associates]

D. Bretzke [Science Applications International Corporation]

S. Chakraborti [Science Applications International Corporation]

MS-1320, C.F. Novak [Dept. 6119]

MS-1323, H. Jow [Dept. 6741]

MS-1328. M.S. Tierney [Dept. 6741]
MS-1328. D.R. Anderson [Dept. 6749]
MS-1328. M.E. Fewell [Dept. 6749]
MS-1328. J.D. Schreiber [Dept. 6749]
MS-1328. P. Vaughn [Dept. 6749]
MS-1341. L.H. Brush [Dept. 6748]
MS-1341. B.M. Butcher [Dept. 6748]
MS-1341. A.C. Peterson [Dept. 6748]
MS-1341. L.J. Storz [Dept. 6748]
MS-1341. A. Reiser [Dept. 6747]
MS-1341. R.F. Weiner [Dept. 6747]
MS-1495. P.E. Sanchez [Dept. 6700]
MS-1328. Day File [Dept. 6741]
MS-1328. L.C. Sanchez [Dept. 6741]
File - SWCF-A WBS 1.1.6.2: PA: PBWAC - WIPP ACTIVITY

APPENDIX A-2

Sandia National Laboratories

Managed and Operated by Sandia Corporation
a Lockheed Martin Corporation
Albuquerque, New Mexico 87185-1328

date : January 11, 1996

to : S. Chakraborti [Science Applications International Corporation]

from :  L. C. Sanchez, Org 6741, MS-1328, PH-(505)848-0685, Fax-848-0705

subject : Information Needed from TWBIR (Rev. 2/Addendum)

I have read Paul Drez's memo [Ref. DEA-1] about the Rev. 2 of the TWBIR [Ref. BIR-1]. When updated values are available, please send me a memo with the WIPP-scale values (CH & RH waste material parameters - Tables 3-2 & 3-3 and CH & RH disposal radionuclide inventory data - Table 3-4). [Note - because the anticipated volume of RH waste is much greater than the WIPP disposal volume, the proper volume that should be used to determine the average waste material parameters should be a "truncated volume", i.e., the truncated volume is equal to the existing stored waste plus only the necessary amount of projected waste necessary to reach the WIPP disposal volume limit.] When regenerating Table 3-4, please add extra columns which also display the "total curies" (in addition to the data displaying the curie volumetric densities) for both CH & RH radionuclides. The volumes to be used for these conversions are: 1) $6.2E+06$ cu.ft. = $175,584$ cu.m. for CH-TRU waste and 2) $0.25E+06$ cu.ft. = $7,080$ cu.m. [the unit conversions for volume were done with the factor 1.0 cu.ft. = $2.832E-02$ cu.m. taken from Ref. SNL-1].

5.95E+06
65 1-12-96

167,504.

65 1-12-96

A second request, which should be documented in a separate memo, is that CH & RH activity loading tables be generated on a per-waste stream basis. The format for the data should look as close to that shown in Table 1 below. It is also needed that the information be made into an ASCII file and placed on a 3.5" diskette (IBM formatted). There are three versions of this table that are needed: 1) values corresponding to stored waste only, 2) values corresponding to projected waste only, and 3) values corresponding to WIPP disposal volume [Note - remember to use the truncated volumes for the RH waste].

REFERENCES

[DEA-1]

Memo from: P. Drez (Drez Environmental Associates, DEA) to: L.C. Sanchez (Sandia National Laboratories), subject: "BIR Error", dated: January 7, 1996.

[BIR-1]

DOE (U.S. Department of Energy); Transuranic Waste Baseline Inventory Report; DOE/CAO-95-1121; Revision 2; printed December 1995.

[SNL-1]

Sandia WIPP Project. 1992. *Preliminary Performance Assessment for the Waste Isolation Pilot Plant, December 1992. Volume 3: Model Parameters (SAND92-0700/3)*, section: *Conversion Tables For SI and Common English Units*, Table 3, pg. Conversion Tables - 4. SAND92-0700/3. Albuquerque, NM: Sandia National Laboratories.

Exceptional Service in the National Interest

| Table 1. Radionuclide Activity Loading Table (to be used for human intrusion calculations) | | | | | |
|---|---------|-----------------|------------------------|---|-------------------|
| TRU Type | Site ID | Waste Stream ID | Volume of Waste Stream | Curie Loading | |
| | | | | $\left[\frac{\text{curies}}{\text{vol}} \right]$ | $[\text{curies}]$ |
| CH | LANL | LA-?001 | XXXXX | X.XXE-KK | X.XXE+KK |
| CH | LANL | LA-?002 | XXXXX | X.XXE-KK | X.XXE+KK |
| CH | LANL | LA-?003 | XXXXX | X.XXE-KK | X.XXE+KK |
| CH | LANL | LA-?004 | XXXXX | X.XXE-KK | X.XXE+KK |
| CH | LANL | LA-?005 | XXXXX | X.XXE-KK | X.XXE+KK |
| CH | LANL | LA-?006 | XXXXX | X.XXE-KK | X.XXE+KK |
| CH | LANL | ↓ | ↓ | ↓ | ↓ |
| CH | LANL | -- | Σ XXXXX | -- | Σ X.XXE+KK |
| CH | RFETS | RF-?001 | XXXXX | X.XXE-KK | X.XXE+KK |
| CH | RFETS | ↓ | ↓ | ↓ | ↓ |
| CH | RFETS | -- | Σ XXXXX | -- | Σ X.XXE+KK |
| CH | ↓ | ↓ | ↓ | ↓ | ↓ |
| CH | Total | -- | Σ XXXXX | -- | Σ X.XXE+KK |
| RH | LANL | LA-?001 | XXXXX | X.XXE-KK | X.XXE+KK |
| RH | LANL | LA-?002 | XXXXX | X.XXE-KK | X.XXE+KK |
| RH | LANL | LA-?003 | XXXXX | X.XXE-KK | X.XXE+KK |
| RH | LANL | LA-?004 | XXXXX | X.XXE-KK | X.XXE+KK |
| RH | LANL | LA-?005 | XXXXX | X.XXE-KK | X.XXE+KK |
| RH | LANL | LA-?006 | XXXXX | X.XXE-KK | X.XXE+KK |
| RH | LANL | ↓ | ↓ | ↓ | ↓ |
| RH | LANL | -- | Σ XXXXX | -- | Σ X.XXE+KK |
| RH | RFETS | RF-?001 | XXXXX | X.XXE-KK | X.XXE+KK |
| RH | RFETS | ↓ | ↓ | ↓ | ↓ |
| RH | RFETS | -- | Σ XXXXX | -- | Σ X.XXE+KK |
| RH | ↓ | ↓ | ↓ | ↓ | ↓ |
| RH | Total | -- | Σ XXXXX | -- | Σ X.XXE+KK |

LCS:6741:lcs/(96-2096)

Copy to:

MS-1328, H. Jow [Dept. 6741]

MS-1328, R.P. Anderson [Dept. 6749]

MS-1328, Day File [Dept. 6741]

MS-1328, L.C. Sanchez [Dept. 6741]

File - SWCF-A WBS 1.1.6.2:PA:PBWAC - WIPP ACTIVITY

APPENDIX A-3

Sandia National Laboratories

Managed and Operated by Sandia Corporation
a Lockheed Martin Corporation
Albuquerque, New Mexico 87185-1328

date : January 30, 1996

to : S. Chakraborti [Science Applications International Corporation]

from :  L. C. Sanchez, Org 6741, MS-1328, PH-(505)848-0685, Fax-848-0705

subject : **Information Needed from TWBIR (Rev. 2/Addendum)**

With regards to the two requests previously made (Ref. LCS-1), the first is no longer needed and an update is needed for the second.

Since the data in the TWBIR (Ref. BIR-1) for projected waste material parameters and radionuclide inventory is based on data for stored waste (Ref. SC-1), the first request for data values to be volume averaged using truncated volume is not necessary (i.e., it would yield the same values).

For the second request from Ref. LCS-1, it has been identified that not all the radionuclide data in the TWBIR are incorporated in the radionuclide activity loading tables which are used for the human intrusion calculations (Refs. SNL-1 & JG-1). Instead, an abbreviated list of 21 radionuclides is all that should be used to generate the curie loading table (see Table 1 of Ref. LCS-1). The list of the 21 radionuclides (for both CH and RH) are shown in Table 1 below (this list is based on Table I of Appendix of Ref. EPA-1). Also, since the projected waste data is based on stored data, values generated are needed only for WIPP disposal volumes (data separated for stored and projected data would have yielded the same values).

REFERENCES

[BIR-1]

DOE (U.S. Department of Energy); Transuranic Waste Baseline Inventory Report; DOE/CAO-95-1121; Revision 2; printed December 1995.

[EPA-1]

"Environmental Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radionactive Waste: Final Rule," 40CFR191, *Federal Register*, 50, 38066 (1985).

[JG-1] Communications with J. Garner [Piru Assoc., SNL/Dept 6749], date: January 30, 1996.

[LCS-1]

Memo from: L.C. Sanchez (Dept. 6741) to: S. Chakraborti (Science Applications International Corporation), subject: "Information Needed from TWBIR (Rev. 2/Addendum)", dated: January 11, 1996.

[SC-1] Communications with S. Chakraborti [Science Applications International Corporation], date: January 25, 1996.

Exceptional Service in the National Interest

[SNL-1]

Sandia WIPP Project. 1992. *Preliminary Performance Assessment for the Waste Isolation Pilot Plant, December 1992.* (SAND92-0700).

| Table 1. Radionuclides That Should Be Used To Generate Curie Loading | |
|--|--------------|
| | Radionuclide |
| 1 | Am-241 |
| 2 | Cm-248 |
| 3 | Cs-137 |
| 4 | Np-237 |
| 5 | Pa-231 |
| 6 | Pb-210 |
| 7 | Pu-238 |
| 8 | Pu-239 |
| 9 | Pu-240 |
| 10 | Pu-242 |
| 11 | Pu-244 |
| 12 | Ra-226 |
| 13 | Sr-90 |
| 14 | Th-229 |
| 15 | Th-230 |
| 16 | Th-232 |
| 17 | U-233 |
| 18 | U-234 |
| 19 | U-235 |
| 20 | U-236 |
| 21 | U-238 |

LCS:6741:lcs/(96-2098)

Copy to:

MS-1328, H. Jow [Dept. 6741]

MS-1328, R.P. Anderson [Dept. 6749]

MS-1328, Day File [Dept. 6741]

MS-1328, L.C. Sanchez [Dept. 6741]

File - SWCF-A WBS 1.1.6.2:PA:PBWAC - WIPP ACTIVITY

APPENDIX B

APPENDIX B - 1

United States Government

Department of Energy

memorandum

Carlsbad Area Office
Carlsbad, New Mexico 88221

DATE: June 4, 1996
REPLY TO: CAO:NTP:RLB:96-1174
ATTN OF:

SUBJECT: Revised Radionuclide Data in Support of the Compliance Certification Application

TO: Les E. Shephard, Director, Nuclear Waste Management Programs Center, SNL/NM

Please find attached the revised WIPP disposal radionuclide inventory which was previously transmitted to your staff for their use. This inventory has been recalculated on the basis of new radionuclide information recently available from four TRU waste sites: the Hanford site (Hanford), the Oak Ridge National Laboratory (ORNL), the Rocky Flats Environmental Technology Site (RFETS), and the Savannah River Site (SRS). The revised WIPP disposal radionuclide inventory is provided in Attachment A in a format similar to Table.3-4 of Revision 2 of the Transuranic Waste Baseline Inventory Report (TWBIR).

The values in Attachment A were originally based on the extrapolation of the results of preliminary radionuclide decay calculations that were completed by Sandia National Laboratories (SNL) staff on April 8. These preliminary calculations have recently completed the formal quality assurance/quality control (QA/QC) review process by the SNL QA/QC group, and an approved version of these calculations was obtained on Tuesday, April 17. The QA/QC review process produced some changes in the preliminary values, and these changes have been incorporated in Attachment A.

Since the WIPP Performance Assessment (PA) group at SNL required the revised data as soon as possible in support of the Compliance Certification Application (CCA), Attachment A is being supplied as the most current update until the publication of Revision 3 and should be used by the WIPP PA in support of the CCA. As agreed with the SNL WIPP (PA) staff during the videoconference meeting on March 3, 1996, the revised data shown in Attachment A are based on the final waste form volumes published in Revision 2 of the TWBIR. The information in Attachment A will be included in the TWBIR, Rev. 3, as well as that previously supplied on complexing agents, cement content, and nitrate/sulfate/phosphate content, which will be included as an appendix to the TWBIR.

In summary, the revised data in Attachment A incorporates the effect of the following information received from four sites during the past two months:

- Corrections to the values for Cf-252, Cm-244, and Cm-245 reported in earlier Hanford submittals for the IDB.



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June 4, 1996

- Preliminary sludge sampling data from ORNL for the RH-TRU sludges showing the distribution of different uranium isotopes in the sludge: this enabled the redistribution of the uranium curies from previous Oak Ridge IDB submittals and corrected the previously high estimates of U-235.
- Break-up of radionuclide data for SRS waste between on-site and off-site waste (i.e., waste from Los Alamos and Mound that was shipped to SRS for storage in the early 1970s); this enabled more realistic extrapolation of the amount of Pu-238 and Pu-239 in SRS waste.

A description of the step-by-step methodology used to incorporate the new information from the four sites and to develop the revised inventory is provided in Attachment B.

If you have any questions concerning the enclosed information, please contact Mr. Russ Bisping of my staff at (505) 234-7446.



Don Watkins

Manager

National TRU Program

Attachments

cc w/attachments:

R. Bisping, CAO

G. Basabilvazo, CAO

J. Mewhinney, CAO

S. Chakraborti, CTAC

P. Drez, CTAC

J. Harvill, CTAC

R. Anderson, SNL

L. Sanchez, SNL

M. Chu, SNL

M. Marietta, SNL

ATTACHMENT A

WIPP Disposal Radionuclide Inventory for the CCA¹

| Nuclide | CH-TRU Waste (Ci/m ³) | RH-TRU Waste (Ci/m ³) | CH-TRU Waste (Total Curies ²) | RH-TRU Waste (Total Curies ²) |
|---------|--------------------------------------|--------------------------------------|--|--|
| Ac225 | 1.71E-05 | 1.66E-05 | 2.88E+00 | 1.17E-01 |
| Ac227 | 3.61E-06 | 1.07E-07 | 6.08E-01 | 7.57E-04 |
| Ac228 | 4.43E-06 | 1.10E-05 | 7.47E-01 | 7.77E-02 |
| Ag109m | 9.32E-05 | NR | 1.57E+01 | NR |
| Ag110 | 4.19E-14 | 2.46E-13 | 7.07E-09 | 1.74E-09 |
| Ag110m | 3.15E-12 | 1.85E-11 | 5.31E-07 | 1.31E-07 |
| Am241 | 2.62E+00 | 8.42E-01 | 4.42E+05 | 5.96E+03 |
| Am242 | 1.04E-05 | NR | 1.75E+00 | NR |
| Am242m | 1.04E-05 | NR | 1.75E+00 | NR |
| Am243 | 1.93E-04 | 3.23E-08 | 3.26E+01 | 2.28E-04 |
| Am245 | 7.89E-15 | 4.06E-20 | 1.33E-09 | 2.87E-16 |
| At217 | 1.71E-05 | 1.66E-05 | 2.88E+00 | 1.17E-01 |
| Ba137m | 4.53E-02 | 2.89E+01 | 7.63E+03 | 2.04E+05 |
| Bi210 | 1.52E-05 | 1.01E-09 | 2.55E+00 | 7.16E-06 |
| Bi211 | 3.61E-06 | 1.07E-07 | 6.09E-01 | 7.58E-04 |
| Bi212 | 1.61E-04 | 1.04E-05 | 2.71E+01 | 7.36E-02 |
| Bi213 | 1.71E-05 | 1.66E-05 | 2.88E+00 | 1.17E-01 |
| Bi214 | 6.91E-05 | 5.05E-09 | 1.16E+01 | 3.58E-05 |
| Bk249 | 5.44E-10 | 2.80E-15 | 9.16E-05 | 1.98E-11 |
| Bk250 | 2.59E-16 | NR | 4.37E-11 | NR |
| C14 | 6.43E-05 | 2.90E-04 | 1.08E+01 | 2.05E+00 |

NR = Not reported by sites.

¹Decayed to December 1995.

²Total curies estimated by assuming a volume of 168,500 cubic meters for CH-TRU waste and 7,080 cubic meters for RH-TRU waste.

ATTACHMENT A

WIPP Disposal Radionuclide Inventory for the CCA (continued)

| Nuclide | CH-TRU Waste (Ci/m ³) | RH-TRU Waste (Ci/m ³) | CH-TRU Waste (Total Curies ²) | RH-TRU Waste (Total Curies ²) |
|---------|--------------------------------------|--------------------------------------|--|--|
| Cd109 | 9.31E-05 | NR | 1.57E+01 | NR |
| Cd113m | 1.08E-11 | 7.71E-11 | 1.82E-06 | 5.46E-07 |
| Ce144 | 3.71E-07 | 7.24E-04 | 6.26E-02 | 5.13E+00 |
| Cf249 | 3.81E-07 | 6.31E-07 | 6.42E-02 | 4.47E-03 |
| Cf250 | 1.96E-06 | NR | 3.30E-01 | NR |
| Cf251 | 2.24E-08 | NR | 3.78E-03 | NR |
| Cf252 | 1.42E-03 | 1.82E-04 | 2.39E+02 | 1.29E+00 |
| Cm242 | 6.76E-06 | NR | 1.14E+00 | NR |
| Cm243 | 1.61E-05 | 6.99E-03 | 2.72E+00 | 4.95E+01 |
| Cm244 | 1.87E-01 | 4.45E-02 | 3.15E+04 | 3.15E+02 |
| Cm245 | 6.81E-08 | 2.07E-10 | 1.15E-02 | 1.46E-06 |
| Cm246 | 6.06E-07 | NR | 1.02E-01 | NR |
| Cm247 | 1.91E-14 | NR | 3.21E-09 | NR |
| Cm248 | 5.31E-07 | 2.89E-08 | 8.95E-02 | 2.05E-04 |
| Co58 | 1.81E-18 | 1.75E-15 | 3.05E-13 | 1.24E-11 |
| Co60 | 3.83E-04 | 1.47E+00 | 6.46E+01 | 1.04E+04 |
| Cr51 | NR | 4.29E-10 | NR | 3.04E-06 |
| Cs134 | 7.97E-08 | 2.60E-03 | 1.34E-02 | 1.84E+01 |
| Cs135 | 2.98E-09 | 1.66E-08 | 5.02E-04 | 1.17E-04 |
| Cs137 | 4.78E-02 | 3.05E+01 | 8.06E+03 | 2.16E+05 |

NR = Not reported by sites.

¹Decayed to December 1995.

²Total curies estimated by assuming a volume of 168,500 cubic meters for CH-TRU waste and 7,080 cubic meters for RH-TRU waste.

ATTACHMENT A

WIPP Disposal Radionuclide Inventory for the CCA (continued)

| Nuclide | CH-TRU Waste (Ci/m ³) | RH-TRU Waste (Ci/m ³) | CH-TRU Waste (Total Curies ²) | RH-TRU Waste (Total Curies ²) |
|---------|--------------------------------------|--------------------------------------|--|--|
| Es254 | 2.51E-16 | NR | 4.24E-11 | NR |
| Eu150 | 2.08E-10 | NR | 3.51E-05 | NR |
| Eu152 | 7.46E-06 | 1.73E-01 | 1.26E+00 | 1.22E+03 |
| Eu154 | 6.80E-06 | 8.34E-02 | 1.15E+00 | 5.91E+02 |
| Eu155 | 5.62E-06 | 1.67E-02 | 9.46E-01 | 1.18E+02 |
| Fe55 | 1.13E-10 | 2.38E-05 | 1.91E-05 | 1.69E-01 |
| Fe59 | 1.57E-12 | NR | 2.64E-07 | NR |
| Fr221 | 1.71E-05 | 1.66E-05 | 2.88E+00 | 1.17E-01 |
| Fr223 | 4.98E-08 | 1.48E-09 | 8.39E-03 | 1.04E-05 |
| H3 | 5.16E-06 | 9.33E-06 | 8.69E-01 | 6.60E-02 |
| I129 | 4.18E-12 | NR | 7.05E-07 | NR |
| Kr85 | 1.20E-06 | 2.37E-04 | 2.02E-01 | 1.68E+00 |
| Mn54 | 5.05E-09 | 3.32E-06 | 8.51E-04 | 2.35E-02 |
| Nb95 | 1.51E-14 | 9.45E-05 | 2.54E-09 | 6.69E-01 |
| Nb95m | 5.04E-17 | 3.17E-07 | 8.50E-12 | 2.24E-03 |
| Ni59 | 4.47E-08 | NR | 7.52E-03 | NR |
| Ni63 | 5.46E-06 | 1.40E-04 | 9.19E-01 | 9.88E-01 |
| Np237 | 3.33E-04 | 4.02E-04 | 5.61E+01 | 2.85E+00 |
| Np238 | 5.20E-08 | NR | 8.77E-03 | NR |
| Np239 | 1.93E-04 | 3.23E-08 | 3.26E+01 | 2.28E-04 |

NR = Not reported by sites.

¹Decayed to December 1995.

²Total curies estimated by assuming a volume of 168,500 cubic meters for CH-TRU waste and 7,080 cubic meters for RH-TRU waste.

ATTACHMENT A

WIPP Disposal Radionuclide Inventory for the CCA (continued)

| Nuclide | CH-TRU Waste (Ci/m ³) | RH-TRU Waste (Ci/m ³) | CH-TRU Waste (Total Curies ²) | RH-TRU Waste (Total Curies ²) |
|---------|--------------------------------------|--------------------------------------|--|--|
| Np240m | 8.91E-12 | 3.12E-15 | 1.50E-06 | 2.21E-11 |
| Pa231 | 2.67E-06 | 2.70E-07 | 4.51E-01 | 1.91E-03 |
| Pa233 | 3.33E-04 | 4.02E-04 | 5.61E+01 | 2.85E+00 |
| Pa234 | 3.05E-07 | 1.92E-06 | 5.14E-02 | 1.36E-02 |
| Pa234m | 2.35E-04 | 1.48E-03 | 3.96E+01 | 1.05E+01 |
| Pb209 | 1.71E-05 | 1.66E-05 | 2.88E+00 | 1.17E-01 |
| Pb210 | 1.52E-05 | 1.01E-09 | 2.55E+00 | 7.16E-06 |
| Pb211 | 3.61E-06 | 1.07E-07 | 6.09E-01 | 7.58E-04 |
| Pb212 | 1.61E-04 | 1.04E-05 | 2.71E+01 | 7.36E-02 |
| Pb214 | 6.91E-05 | 5.05E-09 | 1.16E+01 | 3.58E-05 |
| Pd107 | 4.40E-10 | 2.45E-09 | 7.41E-05 | 1.73E-05 |
| Pm147 | 4.67E-05 | 1.52E-03 | 7.87E+00 | 1.07E+01 |
| Po210 | 1.52E-05 | 1.01E-09 | 2.55E+00 | 7.16E-06 |
| Po211 | 1.01E-08 | 3.00E-10 | 1.71E-03 | 2.12E-06 |
| Po212 | 1.03E-04 | 6.66E-06 | 1.73E+01 | 4.72E-02 |
| Po213 | 1.67E-05 | 1.62E-05 | 2.82E+00 | 1.15E-01 |
| Po214 | 6.91E-05 | 5.05E-09 | 1.16E+01 | 3.57E-05 |
| Po215 | 3.61E-06 | 1.07E-07 | 6.09E-01 | 7.58E-04 |
| Po216 | 1.61E-04 | 1.04E-05 | 2.71E+01 | 7.36E-02 |
| Po218 | 6.91E-05 | 5.05E-09 | 1.16E+01 | 3.58E-05 |

NR = Not reported by sites.

¹Decayed to December 1995.

²Total curies estimated by assuming a volume of 168,500 cubic meters for CH-TRU waste and 7,080 cubic meters for RH-TRU waste.

ATTACHMENT A

WIPP Disposal Radionuclide Inventory for the CCA (continued)

| Nuclide | CH-TRU Waste (Ci/m ³) | RH-TRU Waste (Ci/m ³) | CH-TRU Waste (Total Curies ²) | RH-TRU Waste (Total Curies ²) |
|---------|--------------------------------------|--------------------------------------|--|--|
| Pr144 | 3.67E-07 | 7.16E-04 | 6.18E-02 | 5.07E+00 |
| Pu236 | 6.16E-08 | NR | 1.04E-02 | NR |
| Pu238 | 1.55E+01 | 2.05E-01 | 2.61E+06 | 1.45E+03 |
| Pu239 | 4.66E+00 | 1.45E+00 | 7.85E+05 | 1.03E+04 |
| Pu240 | 1.25E+00 | 7.15E-01 | 2.10E+05 | 5.07E+03 |
| Pu241 | 1.37E+01 | 2.00E+01 | 2.31E+06 | 1.42E+05 |
| Pu242 | 6.96E-03 | 2.11E-05 | 1.17E+03 | 1.50E-01 |
| Pu243 | 1.91E-14 | NR | 3.21E-09 | NR |
| Pu244 | 8.92E-12 | 3.12E-15 | 1.50E-06 | 2.21E-11 |
| Ra223 | 3.61E-06 | 1.07E-07 | 6.09E-01 | 7.58E-04 |
| Ra224 | 1.61E-04 | 1.04E-05 | 2.71E+01 | 7.36E-02 |
| Ra225 | 1.71E-05 | 1.66E-05 | 2.88E+00 | 1.17E-01 |
| Ra226 | 6.91E-05 | 5.05E-09 | 1.16E+01 | 3.58E-05 |
| Ra228 | 4.43E-06 | 1.10E-05 | 7.47E-01 | 7.77E-02 |
| Rh106 | 1.72E-07 | 1.54E-03 | 2.90E-02 | 1.09E+01 |
| Rn219 | 3.61E-06 | 1.07E-07 | 6.09E-01 | 7.58E-04 |
| Rn220 | 1.61E-04 | 1.04E-05 | 2.71E+01 | 7.36E-02 |
| Rn222 | 6.91E-05 | 5.05E-09 | 1.16E+01 | 3.58E-05 |
| Ru106 | 1.72E-07 | 1.54E-03 | 2.90E-02 | 1.09E+01 |
| Sb125 | 7.17E-07 | 2.67E-04 | 1.21E-01 | 1.89E+00 |

NR = Not reported by sites.

¹Decayed to December 1995.

²Total curies estimated by assuming a volume of 168,500 cubic meters for CH-TRU waste and 7,080 cubic meters for RH-TRU waste.

ATTACHMENT A

WIPP Disposal Radionuclide Inventory for the CCA (continued)

| Nuclide | CH-TRU Waste (Ci/m ³) | RH-TRU Waste (Ci/m ³) | CH-TRU Waste (Total Curies ²) | RH-TRU Waste (Total Curies ²) |
|---------|--------------------------------------|--------------------------------------|--|--|
| Sb126 | 8.02E-10 | 4.46E-09 | 1.35E-04 | 3.16E-05 |
| Sb126m | 5.73E-09 | 3.18E-08 | 9.65E-04 | 2.25E-04 |
| Se79 | 2.58E-09 | 1.44E-08 | 4.35E-04 | 1.02E-04 |
| Sm151 | 8.72E-06 | 5.05E-05 | 1.47E+00 | 3.57E-01 |
| Sn119m | 2.46E-11 | 1.35E-10 | 4.14E-06 | 9.59E-07 |
| Sn121m | 1.58E-07 | 9.45E-07 | 2.66E-02 | 6.69E-03 |
| Sn126 | 5.73E-09 | 3.18E-08 | 9.65E-04 | 2.25E-04 |
| Sr90 | 4.07E-02 | 2.95E+01 | 6.85E+03 | 2.09E+05 |
| Ta182 | NR | 5.95E-12 | NR | 4.21E-08 |
| Tc99 | 1.49E-04 | 8.26E-07 | 2.52E+01 | 5.85E-03 |
| Te125m | 1.75E-07 | 6.57E-05 | 2.95E-02 | 4.65E-01 |
| Te127 | 7.72E-13 | 2.41E-13 | 1.30E-07 | 1.71E-09 |
| Te127m | 7.88E-13 | 2.47E-13 | 1.33E-07 | 1.75E-09 |
| Th227 | 3.56E-06 | 1.06E-07 | 6.01E-01 | 7.47E-04 |
| Th228 | 1.61E-04 | 1.04E-05 | 2.71E+01 | 7.36E-02 |
| Th229 | 1.71E-05 | 1.66E-05 | 2.88E+00 | 1.17E-01 |
| Th230 | 4.78E-07 | 1.07E-06 | 8.06E-02 | 7.56E-03 |
| Th231 | 7.59E-05 | 6.53E-04 | 1.28E+01 | 4.63E+00 |
| Th232 | 5.42E-06 | 1.31E-05 | 9.13E-01 | 9.25E-02 |
| Th234 | 2.35E-04 | 1.48E-03 | 3.96E+01 | 1.05E+01 |

NR = Not reported by sites.

¹Decayed to December 1995.

²Total curies estimated by assuming a volume of 168,500 cubic meters for CH-TRU waste and 7,080 cubic meters for RH-TRU waste.

ATTACHMENT A

WIPP Disposal Radionuclide Inventory for the CCA (continued)

| Nuclide | CH-TRU Waste (Ci/m ³) | RH-TRU Waste (Ci/m ³) | CH-TRU Waste (Total Curies ²) | RH-TRU Waste (Total Curies ²) |
|---------------|--------------------------------------|--------------------------------------|--|--|
| Ti207 | 3.61E-06 | 1.07E-07 | 6.07E-01 | 7.56E-04 |
| Ti208 | 5.77E-05 | 3.74E-06 | 9.73E+00 | 2.65E-02 |
| Ti209 | 3.69E-07 | 3.58E-07 | 6.22E-02 | 2.53E-03 |
| U232 | 1.53E-04 | NR | 2.58E+01 | NR |
| U233 | 1.06E-02 | 2.23E-02 | 1.79E+03 | 1.58E+02 |
| U234 | 2.76E-03 | 6.03E-03 | 4.65E+02 | 4.27E+01 |
| U235 | 7.59E-05 | 6.53E-04 | 1.28E+01 | 4.63E+00 |
| U236 | 1.98E-06 | 1.37E-05 | 3.33E-01 | 9.68E-02 |
| U237 | 3.36E-04 | 4.91E-04 | 5.66E+01 | 3.48E+00 |
| U238 | 2.35E-04 | 1.48E-03 | 3.96E+01 | 1.05E+01 |
| U240 | 8.91E-12 | 3.12E-15 | 1.50E-06 | 2.21E-11 |
| Y90 | 4.07E-02 | 2.95E+01 | 6.85E+03 | 2.09E+05 |
| Zr93 | 3.34E-08 | 1.86E-07 | 5.63E-03 | 1.32E-03 |
| Zr95 | 6.80E-15 | 4.27E-05 | 1.15E-09 | 3.02E-01 |
| TOTALS | 3.81E+01 | 1.43E+02 | 6.42E+06 | 1.02E+06 |

NR = Not reported by sites.

¹Decayed to December 1995.

²Total curies estimated by assuming a volume of 168,500 cubic meters for CH-TRU waste and 7,080 cubic meters for RH-TRU waste.

ATTACHMENT - B

This attachment summarizes the major changes to the undecayed radionuclide data based on the new information obtained from four sites since the publication of Rev. 2 of the TWBIR. It also summarizes the methodology used to develop the revised WIPP disposal radionuclide inventories shown in Attachment A.

Major Changes in Data

The major changes to the undecayed radionuclide data from the four TRU waste sites (Hanford, Oak Ridge, Rocky Flats, and Savannah River) are summarized below for each site:

- **Changes to the Hanford Data** - There were a few errors in the undecayed curies reported by the Hanford site for Cf-252, Cm-244, and Cm-245 in their previous IDB site submittals for CH-TRU waste. The corrected estimates of yearly activity for these radionuclides that were provided by the Hanford site have been used for the revised radionuclide inventory calculations. The previous and revised undecayed activity values are shown in Table B-1.
- **Changes to the Oak Ridge Data** - In previous IDB submittals, Oak Ridge reported a very conservative (high) inventory for U-235 in the Oak Ridge RH-TRU waste due to the absence of any sampling data. Recently available mass spectrometry analytical data for the evaporator feed tank sludges at Oak Ridge have provided new distributions of the different uranium isotopes in the RH-TRU sludges showing that the primary uranium isotope by mass is U-238 (not U-235). Since the original IDB data are reported in terms of curies (i.e., not on a mass basis), the TWBIR team used the mass spectrometry data to develop new yearly estimates of activities for each uranium isotope. The previous and revised undecayed activities for uranium isotopes in Oak Ridge RH-TRU waste are shown in Table B-2.
- **Changes to the RFETS residues data** - The RFETS residues were not included in any of the previous IDB submittals because they were not categorized as waste. Therefore, no break-ups were available for the yearly undecayed activity contributed by each radionuclide in the residues and consequently, no radionuclide decay calculations could be performed for the residues in Rev. 2 of the TWBIR. Based on recent estimates provided by RFETS, it was possible to divide the total undecayed curies for each radionuclide present in the residues into yearly activities. The yearly break-up of undecayed curies from each of these radionuclides is shown in Table B-3.
- **Changes to the SRS data** - In previous IDB submittals, SRS had reported the total yearly undecayed curies contributed by each radionuclide in SRS CH-TRU waste and therefore no information was available from the IDB regarding the contribution from off-site waste stored at SRS versus on-site waste that was generated at SRS. Based on recent information available from SRS regarding the on-site versus off-site break-up,

the TWBIR team has divided the total yearly undecayed activities reported in previous SRS IDB submittals into yearly undecayed activities from on-site and off-site waste. The original IDB data and the break-ups are shown in Table B-4.

These new estimates of undecayed radionuclide activities for the four sites and unchanged data for all other sites were provided to SNL staff to perform radionuclide activity decay calculations. The undecayed activity data were decayed by SNL staff to the end of 1995 using the code ORIGEN2. The new decayed radionuclide inventory received from SNL staff has been used to develop the revised WIPP disposal radionuclide inventory shown in Attachment A.

Summary of the Methodology

The methodology used for development of the revised radionuclide inventory is the same as that described in Section 3.6 on pages 3-27 through 3-29 of Revision 2 of the TWBIR with the following exceptions:

- Decayed curies have been used for the RFETS residues (instead of the undecayed curies used in Rev. 2 of the TWBIR)
- Unlike Rev. 2 of the TWBIR, the estimated concentration of U-235 in RH-TRU waste in Attachment A is well within transportation limits for Pu-239 FGE and therefore does not require any adjustments.
- The curies and volumes contributed by TRU waste generated off-site but stored at SRS have been excluded from the process of estimating radionuclide activities for SRS waste to be generated in the future. Only the data for waste that has been generated and stored at SRS since 1970 has been used for this estimation. The curies contributed by the off-site waste stored at SRS are added to the WIPP radionuclide inventory (in a manner similar to the RFETS residues) but they are not included in any data extrapolation for future SRS waste.

TABLE B - 4
SAVANNAH RIVER SITE

| PREVIOUS IDS CURIES FOR STORED WASTE AT THE SAVANNAH RIVER SITE (ON-SITE + OFF-SITE WASTE) | | | | | | | | | | | | | |
|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 |
| Am241 | 0.00E+00 | 0.00E+00 | 4.32E-01 | 6.28E+00 | 1.97E+01 | 1.99E+01 | 2.58E+01 | 4.00E+01 | 6.14E+01 | 7.06E+01 | 7.14E+01 | 1.04E+02 | 9.08E+01 |
| Np237 | 0.00E+00 | 0.00E+00 | 1.33E-03 | 1.90E-01 | 2.89E-01 | 4.01E-01 | 2.72E-01 | 3.37E-01 | 4.54E-01 | 1.04E+00 | 6.79E-01 | 6.24E-01 | 8.23E-01 |
| Pu238 | 0.00E+00 | 2.09E+06 | 3.49E+04 | 1.48E+03 | 3.87E+03 | 4.31E+03 | 6.83E+03 | 7.89E+03 | 7.84E+03 | 2.49E+04 | 3.49E+04 | 3.51E+04 | 4.79E+04 |
| Pu239 | 0.00E+00 | 1.27E+02 | 2.37E+01 | 3.06E+01 | 1.13E+02 | 1.14E+02 | 1.49E+02 | 2.30E+02 | 2.80E+02 | 1.83E+02 | 3.82E+02 | 5.78E+02 | 4.50E+02 |
| Pu240 | 0.00E+00 | 8.84E+01 | 1.17E+01 | 7.47E+00 | 2.73E+01 | 2.78E+01 | 3.86E+01 | 5.57E+01 | 8.29E+01 | 4.39E+01 | 8.89E+01 | 1.42E+02 | 1.15E+02 |
| Pu241 | 0.00E+00 | 4.50E+03 | 7.75E+02 | 2.86E+02 | 1.06E+03 | 1.98E+04 | 2.21E+03 | 2.17E+03 | 2.44E+03 | 1.89E+03 | 4.09E+03 | 5.89E+03 | 4.79E+03 |
| U234 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.11E-02 | 3.22E-02 | 2.17E-02 | 1.07E-02 | 3.10E-02 | 6.84E-02 | 3.98E-02 | 6.18E-02 | 0.00E+00 |
| U235 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.98E-04 | 6.55E-04 | 4.23E-04 | 2.01E-04 | 5.83E-04 | 1.29E-03 | 7.48E-04 | 1.18E-04 | 4.76E-04 |
| U236 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.54E-03 | 5.43E-03 | 3.80E-03 | 1.81E-03 | 5.34E-03 | 1.15E-02 | 6.72E-04 | 1.04E-03 | 0.00E+00 |
| U238 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.20E-06 | 3.89E-03 | 8.30E-04 | 6.28E-06 | 3.87E-06 | 4.01E-06 | 2.33E-06 | 3.81E-06 | 3.89E-06 |

| | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | TOTAL |
|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Am241 | 4.08E+01 | 1.02E+02 | 2.48E+02 | 3.37E+02 | 1.59E+02 | 6.48E+02 | 8.83E+01 | 8.42E+01 | 1.72E+01 | 3.79E+00 | 7.27E-01 | 5.89E+00 | 2.11E+02 |
| Np237 | 2.34E-01 | 1.77E+00 | 2.78E-02 | 1.49E-02 | 7.54E-02 | 3.75E-02 | 3.39E-02 | 1.39E+00 | 8.33E-02 | 1.88E-03 | 0.00E+00 | 5.87E-03 | 8.58E+00 |
| Pu238 | 4.44E+04 | 1.33E+04 | 2.18E+04 | 8.84E+03 | 1.44E+04 | 5.59E+03 | 1.73E+03 | 3.00E+03 | 2.91E+03 | 1.40E+03 | 4.70E+03 | 1.78E+04 | 5.57E+04 |
| Pu239 | 2.23E+02 | 4.82E+02 | 1.39E+03 | 1.88E+03 | 8.89E+02 | 8.80E+02 | 4.80E+02 | 3.59E+02 | 8.59E+01 | 1.00E+01 | 6.84E+00 | 3.86E+01 | 9.29E+01 |
| Pu240 | 6.84E+01 | 1.16E+02 | 3.25E+02 | 4.46E+02 | 2.09E+02 | 2.04E+02 | 1.14E+02 | 8.47E+01 | 2.32E+01 | 2.81E+00 | 2.49E+00 | 1.17E+01 | 2.29E+01 |
| Pu241 | 2.70E+03 | 4.51E+03 | 1.24E+04 | 1.89E+04 | 7.98E+03 | 7.75E+03 | 4.30E+03 | 3.22E+03 | 9.01E+02 | 1.12E+02 | 1.39E+02 | 6.11E+02 | 1.11E+04 |
| U234 | 1.84E-02 | 0.00E+00 | 7.50E-03 | 1.84E-02 | 1.22E-02 | 8.14E-03 | 2.27E-04 | 7.06E-04 | 0.00E+00 | 2.25E-04 | 2.10E-02 | 1.90E-02 | 3.00E-01 |
| U235 | 3.11E-04 | 8.84E-06 | 1.42E-04 | 3.47E-04 | 2.29E-04 | 1.72E-04 | 4.28E-06 | 1.39E-06 | 4.32E-06 | 4.23E-06 | 4.14E-04 | 3.83E-04 | 5.74E-03 |
| U236 | 2.78E-03 | 0.00E+00 | 1.27E-03 | 3.11E-03 | 2.05E-03 | 1.54E-03 | 3.83E-06 | 1.19E-04 | 0.00E+00 | 3.80E-06 | 3.89E-06 | 3.21E-03 | 4.70E-02 |
| U238 | 2.71E-04 | 7.72E-06 | 7.50E-06 | 1.10E-06 | 7.14E-06 | 6.70E-06 | 1.33E-07 | 3.40E-06 | 3.38E-07 | 1.32E-07 | 4.11E-06 | 4.21E-04 | 5.70E-03 |

| REVISED UNDECAYED CURIES FOR STORED WASTE AT THE SAVANNAH RIVER SITE (ON-SITE WASTE) | | | | | | | | | | | | | |
|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 |
| Am241 | 0.00E+00 | 0.00E+00 | 4.32E-01 | 6.28E+00 | 1.97E+01 | 1.99E+01 | 2.58E+01 | 4.00E+01 | 6.14E+01 | 7.06E+01 | 7.14E+01 | 1.04E+02 | 9.08E+01 |
| Np237 | 0.00E+00 | 0.00E+00 | 1.33E-03 | 1.90E-01 | 2.89E-01 | 4.01E-01 | 2.72E-01 | 3.37E-01 | 4.54E-01 | 1.04E+00 | 6.79E-01 | 6.24E-01 | 8.23E-01 |
| Pu238 | 0.00E+00 | 0.00E+00 | 4.00E+01 | 1.49E+03 | 3.87E+03 | 4.31E+03 | 6.83E+03 | 7.89E+03 | 7.84E+03 | 2.49E+04 | 3.49E+04 | 3.51E+04 | 4.79E+04 |
| Pu239 | 0.00E+00 | 0.00E+00 | 2.48E+00 | 3.06E+01 | 1.13E+02 | 1.14E+02 | 1.49E+02 | 2.30E+02 | 2.80E+02 | 1.83E+02 | 3.82E+02 | 5.78E+02 | 4.50E+02 |
| Pu240 | 0.00E+00 | 0.00E+00 | 5.86E-01 | 7.47E+00 | 2.73E+01 | 2.78E+01 | 3.86E+01 | 5.57E+01 | 8.29E+01 | 4.39E+01 | 8.89E+01 | 1.42E+02 | 1.15E+02 |
| Pu241 | 0.00E+00 | 0.00E+00 | 2.18E+01 | 2.96E+02 | 1.06E+03 | 1.98E+04 | 2.21E+03 | 2.17E+03 | 2.44E+03 | 1.89E+03 | 4.09E+03 | 5.89E+03 | 4.79E+03 |
| U234 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.11E-02 | 3.22E-02 | 2.17E-02 | 1.07E-02 | 3.10E-02 | 6.84E-02 | 3.98E-02 | 6.18E-02 | 0.00E+00 |
| U235 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.98E-04 | 6.55E-04 | 4.23E-04 | 2.01E-04 | 5.83E-04 | 1.29E-03 | 7.48E-04 | 1.18E-04 | 4.76E-04 |
| U236 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.54E-03 | 5.43E-03 | 3.80E-03 | 1.81E-03 | 5.34E-03 | 1.15E-02 | 6.72E-04 | 1.04E-03 | 0.00E+00 |
| U238 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.20E-06 | 3.89E-03 | 8.30E-04 | 6.28E-06 | 3.87E-06 | 4.01E-06 | 2.33E-06 | 3.81E-06 | 3.89E-06 |

| | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | TOTAL |
|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Am241 | 3.94E+01 | 1.02E+02 | 2.48E+02 | 3.37E+02 | 1.59E+02 | 6.48E+02 | 8.83E+01 | 8.42E+01 | 1.72E+01 | 3.79E+00 | 7.27E-01 | 5.89E+00 | 2.11E+02 |
| Np237 | 2.31E-01 | 1.77E+00 | 2.78E-02 | 1.49E-02 | 7.54E-02 | 3.75E-02 | 3.39E-02 | 1.39E+00 | 8.33E-02 | 1.88E-03 | 0.00E+00 | 5.87E-03 | 8.58E+00 |
| Pu238 | 4.44E+04 | 1.33E+04 | 2.18E+04 | 8.84E+03 | 1.44E+04 | 5.59E+03 | 1.73E+03 | 3.00E+03 | 2.91E+03 | 1.40E+03 | 4.80E+03 | 1.78E+04 | 5.57E+04 |
| Pu239 | 2.18E+02 | 4.82E+02 | 1.39E+03 | 1.88E+03 | 8.89E+02 | 8.80E+02 | 4.80E+02 | 3.59E+02 | 8.59E+01 | 1.00E+01 | 4.27E+00 | 3.86E+01 | 9.13E+01 |
| Pu240 | 5.87E+01 | 1.16E+02 | 3.25E+02 | 4.46E+02 | 2.09E+02 | 2.04E+02 | 1.14E+02 | 8.47E+01 | 2.32E+01 | 2.81E+00 | 1.83E+00 | 1.17E+01 | 2.21E+01 |
| Pu241 | 2.83E+03 | 4.51E+03 | 1.24E+04 | 1.89E+04 | 7.98E+03 | 7.75E+03 | 4.30E+03 | 3.22E+03 | 9.01E+02 | 1.12E+02 | 1.14E+02 | 6.11E+02 | 1.09E+04 |
| U234 | 1.84E-02 | 0.00E+00 | 7.50E-03 | 1.84E-02 | 1.22E-02 | 8.14E-03 | 2.27E-04 | 7.06E-04 | 0.00E+00 | 2.25E-04 | 2.10E-02 | 1.90E-02 | 3.00E-01 |
| U235 | 3.11E-04 | 8.84E-06 | 1.42E-04 | 3.47E-04 | 2.29E-04 | 1.72E-04 | 4.28E-06 | 1.39E-06 | 4.32E-06 | 4.23E-06 | 4.14E-04 | 3.83E-04 | 5.73E-03 |
| U236 | 2.78E-03 | 0.00E+00 | 1.27E-03 | 3.11E-03 | 2.05E-03 | 1.54E-03 | 3.83E-06 | 1.19E-04 | 0.00E+00 | 3.80E-06 | 3.89E-06 | 3.21E-03 | 4.89E-02 |
| U238 | 2.71E-04 | 7.72E-06 | 7.50E-06 | 1.10E-06 | 7.14E-06 | 6.70E-06 | 1.33E-07 | 3.40E-06 | 3.38E-07 | 1.32E-07 | 7.09E-07 | 4.21E-04 | 5.68E-03 |

| REVISED UNDECAYED CURIES FOR STORED WASTE AT THE SAVANNAH RIVER SITE (OFF-SITE WASTE ONLY) | | | | | | | | | | | | | |
|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 |
| Am241 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Np237 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Pu238 | 0.00E+00 | 2.09E+06 | 3.49E+04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Pu239 | 0.00E+00 | 1.27E+02 | 2.12E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Pu240 | 0.00E+00 | 8.84E+01 | 1.11E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Pu241 | 0.00E+00 | 4.50E+03 | 7.54E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| U234 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| U235 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| U236 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| U238 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | TOTAL |
|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Am241 | 1.40E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.76E-01 | 0.00E+00 | 1.87E+00 |
| Np237 | 3.03E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.03E-03 |
| Pu238 | 4.37E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.57E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.31E+00 | 0.00E+00 | 2.43E+00 |
| Pu239 | 7.37E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.57E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.87E+00 | 0.00E+00 | 1.58E+00 |
| Pu240 | 1.74E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.20E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.33E-01 | 0.00E+00 | 7.99E+00 |
| Pu241 | 6.57E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.58E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.39E+01 | 0.00E+00 | 5.34E+00 |
| U234 | 1.19E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.18E-04 | 0.00E+00 | 3.37E-04 |
| U235 | 2.23E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.81E-06 | 0.00E+00 | 8.84E-06 |
| U236 | 2.00E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.88E-06 | 0.00E+00 | 5.88E-06 |
| U238 | 8.89E-08 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.04E-06 | 0.00E+00 | 4.04E-06 |

TABLE B - 3
Rocky Flats Environmental Technology Site

| UNDECAYED YEARLY ACTIVITY DATA FOR THE RFETS RESIDUES | | | | | | | |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 |
| Am-241 | 2.06E+04 | 2.22E+03 | 6.81E+03 | 1.56E+04 | 9.20E+03 | 7.81E+03 | 1.03E+04 |
| Pu-238 | 1.84E+03 | 1.77E+02 | 5.43E+02 | 1.24E+03 | 7.34E+02 | 6.23E+02 | 8.19E+02 |
| Pu-239 | 3.50E+04 | 3.77E+03 | 1.16E+04 | 2.84E+04 | 1.56E+04 | 1.33E+04 | 1.75E+04 |
| Pu-240 | 8.01E+03 | 8.64E+02 | 2.66E+03 | 6.05E+03 | 3.58E+03 | 3.04E+03 | 4.00E+03 |
| Pu-241 | 2.05E+05 | 2.21E+04 | 6.77E+04 | 1.55E+05 | 9.15E+04 | 7.77E+04 | 1.02E+05 |
| Pu-242 | 1.01E+00 | 1.08E-01 | 3.35E-01 | 7.65E-01 | 4.52E-01 | 3.84E-01 | 5.05E-01 |

| | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | TOTALS |
|---------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|
| Am-241 | 1.74E+04 | 1.57E+04 | 9.38E+02 | 1.04E+02 | 3.47E+01 | 1.81E+03 | 1.89E+05 |
| Pu-238 | 1.38E+03 | 1.25E+03 | 7.47E+01 | 8.30E+00 | 2.77E+00 | 1.44E+02 | 8.85E+03 |
| Pu-239 | 2.96E+04 | 2.67E+04 | 1.58E+03 | 1.77E+02 | 5.90E+01 | 3.07E+03 | 1.84E+05 |
| Pu-240 | 6.78E+03 | 6.10E+03 | 3.65E+02 | 4.05E+01 | 1.35E+01 | 7.02E+02 | 4.22E+04 |
| Pu-241 | 1.73E+05 | 1.58E+05 | 9.32E+03 | 1.04E+03 | 3.45E+02 | 1.80E+04 | 1.98E+06 |
| Pu-242 | 8.57E-01 | 7.72E-01 | 4.61E-02 | 5.12E-03 | 1.71E-03 | 8.88E-02 | 5.33E+00 |

TABLE B - 2
Oak Ridge National Laboratory

| PREVIOUS VALUES OF URANIUM ISOTOPES IN THE IDB (CURIES) | | | | | | | | | | | | | |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 |
| U232 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| U233 | 1.25E+00 | 1.25E+00 | 1.25E+00 | 1.25E+00 | 1.58E+00 | 1.75E+00 | 1.28E+00 | 3.38E+00 | 1.25E+00 | 0.00E+00 | 1.00E-01 | 0.00E+00 | 1.00E+00 |
| U234 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| U235 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.01E-04 | 2.84E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| U238 | 3.74E-01 | 3.74E-01 | 3.74E-01 | 3.74E-01 | 3.74E-01 | 3.74E-01 | 3.74E-01 | 3.74E-01 | 3.74E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | TOTAL |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| U232 | 0.00E+00 | 0.00E+00 | 9.28E-02 | 9.28E-02 | 9.28E-02 | 9.28E-02 | 9.28E-02 | 9.28E-02 | 9.28E-02 | 9.28E-02 | 9.28E-02 | 9.28E-02 | 9.28E-01 |
| U233 | 0.00E+00 | 0.00E+00 | 5.37E+00 | 5.37E+00 | 5.37E+00 | 5.37E+00 | 5.37E+00 | 5.37E+00 | 5.37E+00 | 5.37E+00 | 5.37E+00 | 5.37E+00 | 8.90E+01 |
| U234 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| U235 | 0.00E+00 | 0.00E+00 | 1.75E+01 | 1.75E+01 | 1.75E+01 | 1.75E+01 | 1.75E+01 | 1.75E+01 | 1.75E+01 | 1.75E+01 | 1.75E+01 | 1.75E+01 | 1.75E+02 |
| U238 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.37E+00 |

| REVISED UNDECAYED ACTIVITY FOR EACH URANIUM ISOTOPE (CURIES) | | | | | | | | | | | | | |
|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 |
| U233 | 5.58E+00 | 5.58E+00 | 5.58E+00 | 5.58E+00 | 5.78E+00 | 5.88E+00 | 5.80E+00 | 8.88E+00 | 5.58E+00 | 0.00E+00 | 8.08E-02 | 0.00E+00 | 8.08E-01 |
| U234 | 1.25E-01 | 1.25E-01 | 1.25E-01 | 1.25E-01 | 1.25E-01 | 1.25E-01 | 1.25E-01 | 1.25E-01 | 1.25E-01 | 0.00E+00 | 4.58E-07 | 0.00E+00 | 4.55E-08 |
| U235 | 5.89E-03 | 5.89E-03 | 5.89E-03 | 5.89E-03 | 5.89E-03 | 5.89E-03 | 5.89E-03 | 5.89E-03 | 5.89E-03 | 0.00E+00 | 2.07E-08 | 0.00E+00 | 2.07E-07 |
| U236 | 3.45E-03 | 3.45E-03 | 3.45E-03 | 3.45E-03 | 3.45E-03 | 3.45E-03 | 3.45E-03 | 3.45E-03 | 3.45E-03 | 0.00E+00 | 1.28E-08 | 0.00E+00 | 1.28E-07 |
| U238 | 3.73E-01 | 3.73E-01 | 3.73E-01 | 3.73E-01 | 3.73E-01 | 3.73E-01 | 3.73E-01 | 3.73E-01 | 3.73E-01 | 0.00E+00 | 1.38E-08 | 0.00E+00 | 1.38E-05 |

| | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | TOTAL |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| U233 | 0.00E+00 | 0.00E+00 | 3.83E+01 | 3.83E+01 | 3.83E+01 | 3.83E+01 | 3.83E+01 | 3.83E+01 | 3.83E+01 | 3.83E+01 | 3.83E+01 | 3.83E+01 | 4.38E+02 |
| U234 | 0.00E+00 | 0.00E+00 | 9.10E-01 | 9.10E-01 | 9.10E-01 | 9.10E-01 | 9.10E-01 | 9.10E-01 | 9.10E-01 | 9.10E-01 | 9.10E-01 | 9.10E-01 | 1.02E+01 |
| U235 | 0.00E+00 | 0.00E+00 | 5.01E-02 | 5.01E-02 | 5.01E-02 | 5.01E-02 | 5.01E-02 | 5.01E-02 | 5.01E-02 | 5.01E-02 | 5.01E-02 | 5.01E-02 | 5.53E-01 |
| U236 | 0.00E+00 | 0.00E+00 | 2.51E-02 | 2.51E-02 | 2.51E-02 | 2.51E-02 | 2.51E-02 | 2.51E-02 | 2.51E-02 | 2.51E-02 | 2.51E-02 | 2.51E-02 | 2.82E-01 |
| U238 | 0.00E+00 | 0.00E+00 | 2.71E+00 | 2.71E+00 | 2.71E+00 | 2.71E+00 | 2.71E+00 | 2.71E+00 | 2.71E+00 | 2.71E+00 | 2.71E+00 | 2.71E+00 | 3.05E+01 |

TABLE B - 1
Hanford Site

| PREVIOUS UNDECAYED CURIES FOR Cf-252, Cm-244, and Cm-245 IN CH-TRU WASTE AT THE HANFORD SITE | | | | | | | | | | | | | |
|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 |
| Cf252 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.07E+03 |
| Cm244 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Cm245 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.42E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.54E+00 |

| | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | TOTAL |
|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Cf252 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.07E+03 |
| Cm244 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.62E-01 | 6.72E-03 | 7.58E+01 | 0.00E+00 | 0.00E+00 | 7.66E+01 |
| Cm245 | 3.59E-01 | 1.71E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.54E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.68E+01 |

| REVISED UNDECAYED CURIES FOR Cf-252, Cm-244, and Cm-245 IN CH-TRU WASTE AT THE HANFORD SITE | | | | | | | | | | | | | |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 |
| Cf252 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.08E-03 |
| Cm244 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.62E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.72E+02 |
| Cm245 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | TOTAL |
|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Cf252 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.08E-03 |
| Cm244 | 1.70E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.04E+03 | 7.62E-01 | 6.72E-03 | 7.58E+01 | 0.00E+00 | 0.00E+00 | 4.82E+03 |
| Cm245 | 0.00E+00 | 1.71E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.71E-03 |

APPENDIX B - 2



Department of Energy

Carlsbad Area Office
P. O. Box 3090
Carlsbad, New Mexico 88221

June 12, 1996

To: Dr. Les E. Shephard, Director, SNL

Subject: Preliminary Activities for Selected Radionuclides for CH-TRU Waste Streams

The following information from the Transuranic (TRU) Waste Baseline Inventory Report (TWBIR) team was requested during a meeting with SNL representatives on April 23, 1996. The TWBIR team was requested to calculate the radionuclide activity (total curies) for seven radionuclides (Am-241, Cm-244, Pu-238, Pu-239, Pu-240, Pu-241, and U-234) on a waste stream basis for contact-handled (CH)-TRU waste to be disposed of at the WIPP.

During this meeting, it was agreed that since the radionuclide data used by SNL WIPP PA were based on the site-level radionuclide data from the Integrated Data Base (IDB), the waste stream radionuclide data in curies per cubic meter provided by the DOE sites in Revision 2 of the Transuranic Waste Baseline Inventory Report (TWBIR) would be normalized to the extent necessary for consistency with the IDB data. This letter summarizes the methodology for normalization of the waste stream radionuclide data from the TWBIR Rev. 2 and subsequent scale-up of the normalized data to obtain estimates of the total curies of each of the seven selected radionuclides on a waste stream basis. The results of these calculations are presented in Table 1. Please note that the results in Table 1 are not directly obtainable from the TWBIR database; but all of the data in Table 1 are derived from TWBIR Rev. 2 on the basis of the methodology and assumptions discussed later in this memorandum.

Methodology for Normalization of the Waste Stream Radionuclide Data

The waste stream radionuclide data provided by the sites in TWBIR Rev. 2 were first normalized to be consistent with the site-wide values reported for CH-TRU waste in the IDB using the following step-by-step approach:

- Extraction of Volume and Activity Data from the TWBIR Rev. 2 Database - For each CH-TRU waste stream, the stored and projected final waste form volumes as well as activities in curies per cubic meter (Ci/m³) reported by the sites for the seven selected radionuclides were obtained from the database. All RH-TRU waste streams, non-WIPP waste streams, and waste streams for which no data were reported by the site were excluded.

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- **Estimation of Undecayed Total Activity for Each Radionuclide at Each Site** - The Ci/m³ value reported for each radionuclide for each waste stream was multiplied by the stored waste volume to obtain the total undecayed activity of each radionuclide for each waste stream. Next, the total undecayed activity for a given radionuclide (e.g., Pu-238) for all waste streams at a given site were added together to obtain the total undecayed activity for each radionuclide at each site.
- **Comparison with IDB Values and Normalization** - The total undecayed activity estimated above for a given radionuclide at a given site were compared with the values reported for the same radionuclide by the same site in their IDB submittal. Based on this comparison, a normalization factor (NF) was developed for each radionuclide at each site as follows:

$$NF = \frac{\text{Total curies reported by the site in the IDB}}{\text{Total curies estimated from TWBIR Rev. 2 waste stream data}}$$

The NFs calculated in this fashion are shown in Table 2. The total activity for each radionuclide for each waste stream was then multiplied by the normalization factor to obtain the total normalized undecayed stored curies on a waste stream basis.

- **Estimation of Decayed Activities** - For each radionuclide at each site, a ratio of the activity decayed to the end of 1995 to the undecayed activity for each of seven selected radionuclides was calculated based on the ORIGEN2 activity decay calculations performed by SNL staff in support of the development of the WIPP disposal radionuclide inventory for the Compliance Certification Application (CCA). The total normalized undecayed stored curies were then multiplied by this calculated ratio to estimate the decayed curies of each radionuclide that are present in the stored volume of each waste stream. Subsequently, the curies from the stored volume were multiplied by the ratio of the projected to the stored volume to obtain the estimated curies for the projected volume of each waste stream.

Methodology for Scale-up of Waste Stream Decayed Activity to WIPP Repository Volume

This step involves scale-up of the estimated decayed activity for each radionuclide present in the stored volume of each waste stream to the WIPP disposal volume for CH-TRU waste, which is 168,500 m³. Since the total WIPP activity for CH-TRU waste for each radionuclide has already been estimated in an earlier memorandum prepared in support of the CCA, it was assumed that the total WIPP activity in curies for each of the seven radionuclides would be equal, for the sake of consistency, to the values reported in the earlier memorandum. For each

radionuclide, a scale-up factor for activity was calculated as follows:

$$SF_a = \frac{\text{Total WIPP Activity from CCA memo} - \text{Total Estimated Activity for Stored Volume (all waste streams)}}{\text{Total Estimated Activity for Projected Volume (for all waste streams)}}$$

These SF_a 's are shown in Table 3. The estimated activity in curies for the projected volume for each radionuclide for each waste stream was then multiplied by the appropriate scale-up factor derived above, and the result added to the corresponding estimated stored activity in curies to obtain the "Scaled Curies" at a WIPP level for the waste stream. These are the values reported in Table 1.

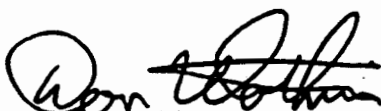
Methodology for Scale-up of Waste Stream Volumes to WIPP Repository Volume

The summation of the total stored and projected volumes for all CH-TRU waste streams is less than the WIPP disposal capacity for CH-TRU waste (i.e., 168,500 m³). However, since the WIPP PA modeling is based on the effect of a full repository (i.e., 168,500 m³ for CH-TRU waste), it is necessary to scale-up the total volume of each waste stream in order to be consistent with the WIPP PA assumptions. This step involves the scale-up of the total volume of each waste stream to the WIPP disposal capacity for CH-TRU waste. A scale-up factor for volume (common to all waste streams) was calculated as follows:

$$SF_v = \frac{\text{WIPP Capacity for CH-TRU Waste (168,500 m}^3\text{)} - \text{Total Stored Volume (all waste streams)}}{\text{Total Projected Volume (for all waste streams)}}$$

This factor is shown in Table 4. The projected volume for each waste stream was then multiplied by the scale-up factor derived above, and the result added to the corresponding stored volume to obtain the "Scaled Volume" at a WIPP level for each waste stream. These are the values reported in Table 1.

If you have any questions concerning the enclosed information, please contact Mr. Russ Bisping of my staff at (505) 234-7446.



Don Watkins

Manager

National TRU Program

Enclosures

Dr. Les E. Shephard, SNL

- 4 -

June 12, 1996

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CAO:NTP:RLB 96-1199

TABLE - 1
SCALED VOLUME AND ACTIVITIES FOR SELECTED RADIONUCLIDES FOR EACH WASTE STREAM

| SITE | Waste Stream ID# | Scaled Volume (m3) | SCALED TOTAL CURIES OF EACH RADIONUCLIDE FOR EACH WASTE STREAM | | | | | | |
|------|------------------|--------------------|--|---------------|---------------|---------------|---------------|---------------|--------------|
| | | | Scaled Am-241 | Scaled Cm-244 | Scaled Pu-238 | Scaled Pu-239 | Scaled Pu-240 | Scaled Pu-241 | Scaled U-234 |
| IN | IN-W139.627 | 12.27 | 2.84E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W146.699 | 2.29 | 8.24E-01 | 4.91E+02 | 7.98E-01 | 6.40E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W157.144 | 49.92 | 8.51E+00 | 0.00E+00 | 1.52E+00 | 4.22E+01 | 9.31E+00 | 1.74E+02 | 0.00E+00 |
| IN | IN-W157.906 | 163.70 | 2.79E+01 | 0.00E+00 | 5.00E+00 | 1.38E+02 | 3.05E+01 | 5.69E+02 | 0.00E+00 |
| IN | IN-W157.907 | 9.36 | 3.19E+00 | 0.00E+00 | 5.71E-01 | 1.58E+01 | 3.49E+00 | 6.51E+01 | 0.00E+00 |
| IN | IN-W159.1072 | 0.68 | 0.00E+00 | 0.00E+00 | 5.05E+02 | 3.67E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W159.119 | 0.21 | 0.00E+00 | 0.00E+00 | 5.15E+01 | 3.74E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W159.120 | 0.42 | 0.00E+00 | 0.00E+00 | 6.17E+02 | 4.49E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W161.231 | 97.55 | 5.22E+00 | 0.00E+00 | 1.31E+01 | 3.63E+02 | 8.02E+01 | 1.49E+03 | 0.00E+00 |
| IN | IN-W161.806 | 15.79 | 8.44E-01 | 0.00E+00 | 2.12E+00 | 5.88E+01 | 1.30E+01 | 2.42E+02 | 0.00E+00 |
| IN | IN-W163.1007 | 0.68 | 0.00E+00 | 0.00E+00 | 5.11E-01 | 1.42E+01 | 3.13E+00 | 5.83E+01 | 0.00E+00 |
| IN | IN-W163.234 | 0.42 | 0.00E+00 | 0.00E+00 | 6.25E-01 | 1.73E+01 | 3.82E+00 | 7.13E+01 | 0.00E+00 |
| IN | IN-W164.1060 | 1.66 | 0.00E+00 | 0.00E+00 | 2.38E-02 | 6.60E-01 | 1.46E-01 | 2.72E+00 | 0.00E+00 |
| IN | IN-W164.153 | 0.89 | 0.00E+00 | 0.00E+00 | 1.27E-02 | 3.52E-01 | 7.78E-02 | 1.45E+00 | 0.00E+00 |
| IN | IN-W166.151 | 16.00 | 4.80E-01 | 0.00E+00 | 2.08E+00 | 5.78E+01 | 1.27E+01 | 2.38E+02 | 0.00E+00 |
| IN | IN-W166.928 | 56.78 | 1.70E+00 | 0.00E+00 | 7.40E+00 | 2.05E+02 | 4.53E+01 | 8.44E+02 | 0.00E+00 |
| IN | IN-W167.149 | 36.68 | 1.72E+00 | 0.00E+00 | 1.05E+00 | 2.90E+01 | 6.41E+00 | 1.19E+02 | 0.00E+00 |
| IN | IN-W167.926 | 131.46 | 6.16E+00 | 0.00E+00 | 3.75E+00 | 1.04E+02 | 2.30E+01 | 4.28E+02 | 0.00E+00 |
| IN | IN-W169.191 | 4267.12 | 1.79E+03 | 0.00E+00 | 8.48E+01 | 2.35E+03 | 5.19E+02 | 9.67E+03 | 0.00E+00 |
| IN | IN-W169.192 | 14.56 | 6.12E+02 | 0.00E+00 | 2.89E+01 | 8.02E+02 | 1.77E+02 | 3.30E+03 | 0.00E+00 |
| IN | IN-W169.985 | 41.79 | 1.76E+01 | 0.00E+00 | 8.31E-01 | 2.30E+01 | 5.08E+00 | 9.47E+01 | 0.00E+00 |
| IN | IN-W170.189 | 0.68 | 3.88E+00 | 0.00E+00 | 0.00E+00 | 1.29E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W170.938 | 0.42 | 2.37E+00 | 0.00E+00 | 0.00E+00 | 7.91E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W171.184 | 3.54 | 1.37E+00 | 0.00E+00 | 0.00E+00 | 1.67E+01 | 0.00E+00 | 1.16E+02 | 0.00E+00 |
| IN | IN-W171.801 | 0.68 | 3.01E-01 | 0.00E+00 | 0.00E+00 | 3.21E+00 | 0.00E+00 | 2.23E+01 | 0.00E+00 |
| IN | IN-W174.1082 | 30.37 | 0.00E+00 | 0.00E+00 | 4.35E+02 | 2.84E-01 | 5.50E-01 | 0.00E+00 | 0.00E+00 |
| IN | IN-W174.154 | 134.32 | 0.00E+00 | 0.00E+00 | 1.92E+03 | 1.26E+00 | 2.43E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W177.1083 | 141.02 | 0.00E+00 | 0.00E+00 | 2.32E+03 | 6.71E-01 | 4.00E-03 | 1.88E-01 | 0.00E+00 |
| IN | IN-W177.156 | 39.23 | 0.00E+00 | 0.00E+00 | 6.44E+02 | 1.87E-01 | 1.11E-03 | 5.22E-02 | 0.00E+00 |
| IN | IN-W179.1084 | 4.58 | 0.00E+00 | 0.00E+00 | 2.99E+01 | 5.05E-04 | 2.57E-04 | 1.64E-02 | 0.00E+00 |
| IN | IN-W179.158 | 1.51 | 0.00E+00 | 0.00E+00 | 9.88E+00 | 1.67E-04 | 8.48E-05 | 5.41E-03 | 0.00E+00 |
| IN | IN-W181.162 | 9.57 | 0.00E+00 | 0.00E+00 | 1.08E-01 | 2.99E+00 | 6.61E-01 | 1.23E+01 | 0.00E+00 |
| IN | IN-W186.187 | 2695.26 | 2.00E+02 | 0.00E+00 | 5.50E+01 | 1.53E+03 | 3.37E+02 | 6.27E+03 | 0.00E+00 |
| IN | IN-W187.1094 | 0.68 | 0.00E+00 | 0.00E+00 | 6.84E-02 | 1.89E+00 | 4.18E-01 | 7.79E+00 | 0.00E+00 |
| IN | IN-W187.121 | 0.21 | 0.00E+00 | 0.00E+00 | 4.18E-02 | 1.16E+00 | 2.56E-01 | 4.77E+00 | 0.00E+00 |
| IN | IN-W188.1093 | 1.04 | 0.00E+00 | 0.00E+00 | 4.26E-02 | 1.18E+00 | 2.60E-01 | 4.85E+00 | 0.00E+00 |
| IN | IN-W188.160 | 0.68 | 0.00E+00 | 0.00E+00 | 2.78E-02 | 7.72E-01 | 1.70E-01 | 3.17E+00 | 0.00E+00 |
| IN | IN-W189.1048 | 4.99 | 0.00E+00 | 0.00E+00 | 1.36E-01 | 3.77E+00 | 8.33E-01 | 1.55E+01 | 0.00E+00 |
| IN | IN-W189.131 | 1.72 | 0.00E+00 | 0.00E+00 | 4.69E-02 | 1.30E+00 | 2.87E-01 | 5.35E+00 | 0.00E+00 |
| IN | IN-W197.196 | 2.29 | 2.09E+02 | 0.00E+00 | 5.19E+00 | 1.44E+02 | 3.18E+01 | 5.92E+02 | 0.00E+00 |

TABLE - 1
SCALED VOLUME AND ACTIVITIES FOR SELECTED RADIONUCLIDES FOR EACH WASTE STREAM

| SITE | Waste Stream ID# | Scaled Volume (m3) | SCALED TOTAL CURIES OF EACH RADIONUCLIDE FOR EACH WASTE STREAM | | | | | | Scaled U-234 |
|------|------------------|--------------------|--|---------------|---------------|---------------|---------------|---------------|--------------|
| | | | Scaled Am-241 | Scaled Cm-244 | Scaled Pu-238 | Scaled Pu-239 | Scaled Pu-240 | Scaled Pu-241 | |
| IN | IN-W197.802 | 310.22 | 4.67E+02 | 0.00E+00 | 1.16E+01 | 3.21E+02 | 7.08E+01 | 1.32E+03 | 0.00E+00 |
| IN | IN-W197.803 | 45.23 | 4.14E+01 | 0.00E+00 | 1.03E+00 | 2.85E+01 | 6.28E+00 | 1.17E+02 | 0.00E+00 |
| IN | IN-W198.202 | 119.60 | 2.16E+02 | 0.00E+00 | 3.53E+00 | 9.78E+01 | 2.16E+01 | 4.02E+02 | 0.00E+00 |
| IN | IN-W198.203 | 0.21 | 3.75E+01 | 0.00E+00 | 6.14E-01 | 1.70E+01 | 3.75E+00 | 7.00E+01 | 0.00E+00 |
| IN | IN-W198.804 | 32.82 | 5.92E+01 | 0.00E+00 | 9.69E-01 | 2.68E+01 | 5.93E+00 | 1.10E+02 | 0.00E+00 |
| IN | IN-W199.1039 | 0.89 | 0.00E+00 | 0.00E+00 | 1.10E-01 | 3.04E+00 | 6.70E-01 | 1.25E+01 | 0.00E+00 |
| IN | IN-W199.209 | 0.21 | 0.00E+00 | 0.00E+00 | 2.57E+00 | 7.11E+01 | 1.57E+01 | 2.92E+02 | 0.00E+00 |
| IN | IN-W202.1092 | 0.89 | 0.00E+00 | 0.00E+00 | 7.20E-03 | 2.00E-01 | 4.40E-02 | 8.21E-01 | 0.00E+00 |
| IN | IN-W202.224 | 109.62 | 0.00E+00 | 0.00E+00 | 8.88E-01 | 2.46E+01 | 5.43E+00 | 1.01E+02 | 0.00E+00 |
| IN | IN-W203.1081 | 0.68 | 1.28E-01 | 0.00E+00 | 5.78E-01 | 1.38E-02 | 6.54E-03 | 1.69E-03 | 0.00E+00 |
| IN | IN-W203.210 | 73.22 | 1.37E+01 | 0.00E+00 | 6.22E+01 | 1.48E+00 | 7.04E-01 | 1.82E-01 | 0.00E+00 |
| IN | IN-W203.211 | 3.33 | 1.25E+00 | 0.00E+00 | 5.66E+00 | 1.35E-01 | 6.40E-02 | 1.65E-02 | 0.00E+00 |
| IN | IN-W203.212 | 0.21 | 1.30E-02 | 0.00E+00 | 5.89E-02 | 1.41E-03 | 6.67E-04 | 1.72E-04 | 0.00E+00 |
| IN | IN-W204.215 | 0.89 | 7.56E+00 | 0.00E+00 | 7.68E+00 | 1.22E-02 | 4.01E-03 | 1.80E-01 | 0.00E+00 |
| IN | IN-W204.216 | 1.66 | 1.42E+01 | 0.00E+00 | 1.44E+01 | 2.29E-02 | 7.52E-03 | 3.36E-01 | 0.00E+00 |
| IN | IN-W204.217 | 0.21 | 5.90E-01 | 0.00E+00 | 5.99E-01 | 9.55E-04 | 3.13E-04 | 1.40E-02 | 0.00E+00 |
| IN | IN-W205.1086 | 0.83 | 0.00E+00 | 0.00E+00 | 1.49E-03 | 4.12E-02 | 9.09E-03 | 1.69E-01 | 0.00E+00 |
| IN | IN-W205.1087 | 0.21 | 0.00E+00 | 0.00E+00 | 3.72E-02 | 1.03E+00 | 2.27E-01 | 4.24E+00 | 0.00E+00 |
| IN | IN-W205.220 | 0.68 | 0.00E+00 | 0.00E+00 | 1.22E-03 | 3.37E-02 | 7.43E-03 | 1.39E-01 | 0.00E+00 |
| IN | IN-W206.933 | 10.89 | 4.82E-01 | 0.00E+00 | 5.41E-01 | 1.50E+01 | 3.31E+00 | 6.17E+01 | 0.00E+00 |
| IN | IN-W206.936 | 22.46 | 1.66E+01 | 0.00E+00 | 1.86E+01 | 5.15E+02 | 1.14E+02 | 2.12E+03 | 0.00E+00 |
| IN | IN-W207.238 | 0.21 | 0.00E+00 | 0.00E+00 | 1.65E+00 | 4.56E+01 | 1.01E+01 | 1.88E+02 | 0.00E+00 |
| IN | IN-W207.980 | 0.89 | 0.00E+00 | 0.00E+00 | 4.22E-01 | 1.17E+01 | 2.58E+00 | 4.81E+01 | 0.00E+00 |
| IN | IN-W207.981 | 0.42 | 0.00E+00 | 0.00E+00 | 1.97E-01 | 5.47E+00 | 1.21E+00 | 2.25E+01 | 0.00E+00 |
| IN | IN-W208.242 | 1.46 | 2.13E+01 | 0.00E+00 | 2.31E+00 | 6.41E+01 | 1.42E+01 | 2.64E+02 | 0.00E+00 |
| IN | IN-W208.988 | 2.34 | 2.06E+00 | 0.00E+00 | 2.24E-01 | 6.20E+00 | 1.37E+00 | 2.55E+01 | 0.00E+00 |
| IN | IN-W209.244 | 3.12 | 6.70E-01 | 0.00E+00 | 1.10E+01 | 3.06E+02 | 6.76E+01 | 1.26E+03 | 0.00E+00 |
| IN | IN-W209.994 | 10.27 | 1.32E-01 | 0.00E+00 | 2.18E+00 | 6.04E+01 | 1.33E+01 | 2.49E+02 | 0.00E+00 |
| IN | IN-W210.1001 | 1.10 | 0.00E+00 | 0.00E+00 | 8.83E-02 | 2.45E+00 | 5.40E-01 | 1.01E+01 | 0.00E+00 |
| IN | IN-W210.247 | 0.21 | 0.00E+00 | 0.00E+00 | 2.79E-01 | 7.74E+00 | 1.71E+00 | 3.18E+01 | 0.00E+00 |
| IN | IN-W211.1009 | 98.47 | 8.53E+01 | 0.00E+00 | 3.64E+01 | 1.01E+03 | 2.23E+02 | 4.15E+03 | 0.00E+00 |
| IN | IN-W211.249 | 22.46 | 3.24E+02 | 0.00E+00 | 1.38E+02 | 3.83E+03 | 8.46E+02 | 1.58E+04 | 0.00E+00 |
| IN | IN-W212.1058 | 3.44 | 1.03E-01 | 0.00E+00 | 4.75E-02 | 1.32E+00 | 2.90E-01 | 5.41E+00 | 0.00E+00 |
| IN | IN-W212.251 | 150.39 | 7.50E+01 | 0.00E+00 | 3.47E+01 | 9.60E+02 | 2.12E+02 | 3.95E+03 | 0.00E+00 |
| IN | IN-W213.1069 | 1.93 | 0.00E+00 | 0.00E+00 | 1.01E+03 | 5.96E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W213.252 | 0.42 | 0.00E+00 | 0.00E+00 | 3.62E+03 | 2.14E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W213.253 | 0.21 | 0.00E+00 | 0.00E+00 | 3.62E+01 | 2.14E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W214.1075 | 0.62 | 0.00E+00 | 0.00E+00 | 4.51E+02 | 3.93E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W214.755 | 0.68 | 0.00E+00 | 0.00E+00 | 4.92E+02 | 4.29E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W214.756 | 0.21 | 0.00E+00 | 0.00E+00 | 5.01E+01 | 4.36E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

TABLE - 1
SCALED VOLUME AND ACTIVITIES FOR SELECTED RADIONUCLIDES FOR EACH WASTE STREAM

| SITE | Waste Stream ID# | Scaled Volume (m3) | SCALED TOTAL CURIES OF EACH RADIONUCLIDE FOR EACH WASTE STREAM | | | | | | |
|------|------------------|--------------------|--|---------------|---------------|---------------|---------------|---------------|--------------|
| | | | Scaled Am-241 | Scaled Cm-244 | Scaled Pu-238 | Scaled Pu-239 | Scaled Pu-240 | Scaled Pu-241 | Scaled U-234 |
| IN | IN-W216.875 | 1478.88 | 4.26E+04 | 0.00E+00 | 5.67E+01 | 1.57E+03 | 3.47E+02 | 6.46E+03 | 0.00E+00 |
| IN | IN-W216.98 | 555.65 | 1.60E+04 | 0.00E+00 | 2.13E+01 | 5.90E+02 | 1.30E+02 | 2.43E+03 | 0.00E+00 |
| IN | IN-W216.99 | 255.01 | 1.47E+04 | 0.00E+00 | 1.95E+01 | 5.42E+02 | 1.20E+02 | 2.23E+03 | 0.00E+00 |
| IN | IN-W218.109 | 183.87 | 3.17E+02 | 0.00E+00 | 1.91E+00 | 5.30E+01 | 1.17E+01 | 2.18E+02 | 0.00E+00 |
| IN | IN-W218.909 | 101.91 | 8.77E+01 | 0.00E+00 | 5.30E-01 | 1.47E+01 | 3.24E+00 | 6.04E+01 | 0.00E+00 |
| IN | IN-W220.114 | 122.80 | 8.39E+02 | 0.00E+00 | 2.49E+00 | 7.42E+01 | 1.59E+01 | 2.84E+02 | 0.00E+00 |
| IN | IN-W220.925 | 443.04 | 3.03E+03 | 0.00E+00 | 8.98E+00 | 2.68E+02 | 5.74E+01 | 1.03E+03 | 0.00E+00 |
| IN | IN-W221.113 | 11.65 | 0.00E+00 | 0.00E+00 | 6.71E-01 | 1.86E+01 | 4.10E+00 | 7.65E+01 | 0.00E+00 |
| IN | IN-W221.927 | 3.65 | 0.00E+00 | 0.00E+00 | 2.10E-01 | 5.82E+00 | 1.29E+00 | 2.40E+01 | 0.00E+00 |
| IN | IN-W222.116 | 24.75 | 3.71E-01 | 0.00E+00 | 7.19E+00 | 1.99E+02 | 4.40E+01 | 8.20E+02 | 0.00E+00 |
| IN | IN-W222.117 | 39.10 | 1.17E+00 | 0.00E+00 | 2.27E+01 | 6.30E+02 | 1.39E+02 | 2.59E+03 | 0.00E+00 |
| IN | IN-W222.965 | 10.61 | 1.59E-01 | 0.00E+00 | 3.08E+00 | 8.54E+01 | 1.89E+01 | 3.52E+02 | 0.00E+00 |
| IN | IN-W225.127 | 21.63 | 9.85E-02 | 0.00E+00 | 1.80E-01 | 4.98E+00 | 1.10E+00 | 2.05E+01 | 0.00E+00 |
| IN | IN-W225.800 | 1.10 | 4.99E-03 | 0.00E+00 | 9.11E-03 | 2.53E-01 | 5.57E-02 | 1.04E+00 | 0.00E+00 |
| IN | IN-W228.101 | 287.33 | 1.18E+02 | 0.00E+00 | 8.74E-01 | 2.42E+01 | 5.35E+00 | 9.96E+01 | 0.00E+00 |
| IN | IN-W228.102 | 198.85 | 1.63E+02 | 0.00E+00 | 1.21E+00 | 3.35E+01 | 7.40E+00 | 1.38E+02 | 0.00E+00 |
| IN | IN-W228.103 | 31.82 | 4.36E+00 | 0.00E+00 | 3.23E-02 | 8.94E-01 | 1.97E-01 | 3.68E+00 | 0.00E+00 |
| IN | IN-W228.883 | 608.82 | 2.50E+02 | 0.00E+00 | 1.85E+00 | 5.13E+01 | 1.13E+01 | 2.11E+02 | 0.00E+00 |
| IN | IN-W230.229 | 4.27 | 2.41E-02 | 0.00E+00 | 1.19E+00 | 3.31E+01 | 7.31E+00 | 1.36E+02 | 0.00E+00 |
| IN | IN-W230.940 | 14.77 | 8.32E-02 | 0.00E+00 | 4.13E+00 | 1.14E+02 | 2.53E+01 | 4.71E+02 | 0.00E+00 |
| IN | IN-W240.272 | 167.65 | 6.48E+01 | 0.00E+00 | 1.32E+01 | 3.67E+02 | 8.10E+01 | 1.51E+03 | 0.00E+00 |
| IN | IN-W240.931 | 1.93 | 7.46E-01 | 0.00E+00 | 1.52E-01 | 4.22E+00 | 9.32E-01 | 1.74E+01 | 0.00E+00 |
| IN | IN-W243.274 | 174.30 | 2.95E+01 | 0.00E+00 | 1.24E+01 | 3.43E+02 | 7.58E+01 | 1.41E+03 | 0.00E+00 |
| IN | IN-W243.275 | 7.28 | 4.93E+00 | 0.00E+00 | 2.07E+00 | 5.73E+01 | 1.27E+01 | 2.36E+02 | 0.00E+00 |
| IN | IN-W243.808 | 46.06 | 7.79E+00 | 0.00E+00 | 3.27E+00 | 9.07E+01 | 2.00E+01 | 3.73E+02 | 0.00E+00 |
| IN | IN-W245.1034 | 0.21 | 5.63E-03 | 0.00E+00 | 5.94E-02 | 1.65E+00 | 3.63E-01 | 6.77E+00 | 0.00E+00 |
| IN | IN-W245.301 | 37.51 | 5.08E-01 | 0.00E+00 | 5.36E+00 | 1.48E+02 | 3.28E+01 | 6.11E+02 | 0.00E+00 |
| IN | IN-W245.302 | 133.74 | 1.81E+00 | 0.00E+00 | 1.91E+01 | 5.29E+02 | 1.17E+02 | 2.18E+03 | 0.00E+00 |
| IN | IN-W247.1038 | 0.21 | 2.39E-03 | 0.00E+00 | 2.86E-02 | 7.94E-01 | 1.75E-01 | 3.26E+00 | 0.00E+00 |
| IN | IN-W247.523 | 173.68 | 9.96E-01 | 0.00E+00 | 1.20E+01 | 3.31E+02 | 7.31E+01 | 1.36E+03 | 0.00E+00 |
| IN | IN-W247.810 | 27.51 | 1.58E-01 | 0.00E+00 | 1.89E+00 | 5.25E+01 | 1.16E+01 | 2.16E+02 | 0.00E+00 |
| IN | IN-W249.1071 | 2.29 | 0.00E+00 | 0.00E+00 | 1.28E+03 | 9.02E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W249.527 | 1.10 | 0.00E+00 | 0.00E+00 | 6.15E+02 | 4.32E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W249.528 | 0.21 | 0.00E+00 | 0.00E+00 | 3.89E+01 | 2.73E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W250.259 | 14.07 | 1.25E-02 | 0.00E+00 | 3.09E+00 | 8.58E+01 | 1.89E+01 | 3.53E+02 | 0.00E+00 |
| IN | IN-W250.941 | 50.96 | 4.54E-02 | 0.00E+00 | 1.12E+01 | 3.11E+02 | 6.86E+01 | 1.28E+03 | 0.00E+00 |
| IN | IN-W252.1000 | 0.21 | 5.95E+00 | 0.00E+00 | 5.01E+00 | 1.39E+02 | 3.07E+01 | 5.72E+02 | 0.00E+00 |
| IN | IN-W252.283 | 117.73 | 3.37E+01 | 0.00E+00 | 2.84E+01 | 7.86E+02 | 1.74E+02 | 3.24E+03 | 0.00E+00 |
| IN | IN-W252.811 | 32.82 | 9.39E+00 | 0.00E+00 | 7.91E+00 | 2.19E+02 | 4.84E+01 | 9.02E+02 | 0.00E+00 |
| IN | IN-W254.1044 | 0.21 | 0.00E+00 | 0.00E+00 | 3.00E+00 | 8.31E+01 | 1.83E+01 | 3.42E+02 | 0.00E+00 |

B2-7

TABLE - 1
SCALED VOLUME AND ACTIVITIES FOR SELECTED RADIONUCLIDES FOR EACH WASTE STREAM

| SITE | Waste Stream ID# | Scaled Volume (m3) | SCALED TOTAL CURIES OF EACH RADIONUCLIDE FOR EACH WASTE STREAM | | | | | | |
|------|------------------|--------------------|--|---------------|---------------|---------------|---------------|---------------|--------------|
| | | | Scaled Am-241 | Scaled Cm-244 | Scaled Pu-238 | Scaled Pu-239 | Scaled Pu-240 | Scaled Pu-241 | Scaled U-234 |
| IN | IN-W234.289 | 2.34 | 0.00E+00 | 0.00E+00 | 3.38E-01 | 9.36E+00 | 2.07E+00 | 3.85E+01 | 0.00E+00 |
| IN | IN-W234.290 | 7.28 | 0.00E+00 | 0.00E+00 | 1.05E+00 | 2.91E+01 | 6.42E+00 | 1.20E+02 | 0.00E+00 |
| IN | IN-W236.1062 | 20.59 | 1.22E+00 | 0.00E+00 | 1.91E+03 | 1.33E+01 | 2.78E+01 | 0.00E+00 | 0.00E+00 |
| IN | IN-W236.293 | 5.99 | 3.56E-01 | 0.00E+00 | 5.55E+02 | 3.87E+00 | 8.08E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W237.538 | 0.21 | 0.00E+00 | 0.00E+00 | 1.14E-02 | 3.16E-01 | 6.97E-02 | 1.30E+00 | 0.00E+00 |
| IN | IN-W237.947 | 0.68 | 0.00E+00 | 0.00E+00 | 1.86E-02 | 5.17E-01 | 1.14E-01 | 2.13E+00 | 0.00E+00 |
| IN | IN-W239.532 | 10.06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.27E+00 | 2.44E-01 | 0.00E+00 | 0.00E+00 |
| IN | IN-W239.920 | 2.50 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.75E+00 | 4.04E-01 | 0.00E+00 | 0.00E+00 |
| IN | IN-W263.520 | 14.35 | 0.00E+00 | 0.00E+00 | 1.98E+01 | 8.99E-01 | 1.39E-03 | 8.89E-02 | 0.00E+00 |
| IN | IN-W265.516 | 7.92 | 8.49E-02 | 0.00E+00 | 2.70E-01 | 7.49E+00 | 1.65E+00 | 3.08E+01 | 0.00E+00 |
| IN | IN-W265.517 | 0.62 | 6.69E-01 | 0.00E+00 | 2.13E+00 | 5.90E+01 | 1.30E+01 | 2.43E+02 | 0.00E+00 |
| IN | IN-W267.1005 | 1.10 | 0.00E+00 | 0.00E+00 | 1.57E+00 | 4.35E+01 | 9.59E+00 | 1.79E+02 | 0.00E+00 |
| IN | IN-W267.514 | 1.25 | 0.00E+00 | 0.00E+00 | 3.57E+00 | 9.89E+01 | 2.18E+01 | 4.07E+02 | 0.00E+00 |
| IN | IN-W269.510 | 5.99 | 3.80E+01 | 0.00E+00 | 3.77E+01 | 3.24E+02 | 3.26E+01 | 8.38E-01 | 0.00E+00 |
| IN | IN-W269.535 | 20.80 | 1.32E+02 | 0.00E+00 | 1.31E+02 | 1.12E+03 | 1.13E+02 | 2.91E+00 | 0.00E+00 |
| IN | IN-W271.532 | 0.89 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.33E+01 | 2.99E+01 | 0.00E+00 | 0.00E+00 |
| IN | IN-W271.533 | 0.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.04E+00 | 2.33E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W272.504 | 0.89 | 0.00E+00 | 0.00E+00 | 7.06E-01 | 1.96E+01 | 4.32E+00 | 8.04E+01 | 0.00E+00 |
| IN | IN-W272.974 | 1.66 | 0.00E+00 | 0.00E+00 | 1.32E+00 | 3.66E+01 | 8.08E+00 | 1.51E+02 | 0.00E+00 |
| IN | IN-W275.502 | 1.72 | 1.03E-01 | 0.00E+00 | 2.68E-01 | 7.44E+00 | 1.64E+00 | 3.06E+01 | 0.00E+00 |
| IN | IN-W275.967 | 5.20 | 3.13E-01 | 0.00E+00 | 8.11E-01 | 2.25E+01 | 4.96E+00 | 9.25E+01 | 0.00E+00 |
| IN | IN-W276.500 | 86.75 | 1.39E+01 | 0.00E+00 | 1.11E+01 | 3.07E+02 | 6.76E+01 | 1.26E+03 | 0.00E+00 |
| IN | IN-W276.966 | 313.46 | 5.04E+01 | 0.00E+00 | 4.00E+01 | 1.11E+03 | 2.44E+02 | 4.56E+03 | 0.00E+00 |
| IN | IN-W278.1090 | 0.89 | 0.00E+00 | 0.00E+00 | 5.70E-03 | 1.58E-01 | 3.49E-02 | 6.50E-01 | 0.00E+00 |
| IN | IN-W278.493 | 4.16 | 0.00E+00 | 0.00E+00 | 8.90E-02 | 2.47E+00 | 5.44E-01 | 1.01E+01 | 0.00E+00 |
| IN | IN-W280.1066 | 28.50 | 2.91E-01 | 0.00E+00 | 1.81E+04 | 1.19E+02 | 2.04E-01 | 1.30E+01 | 0.00E+00 |
| IN | IN-W280.448 | 8.34 | 8.52E-02 | 0.00E+00 | 5.30E+03 | 3.47E+01 | 5.98E-02 | 3.82E+00 | 0.00E+00 |
| IN | IN-W280.449 | 0.21 | 7.08E-04 | 0.00E+00 | 4.41E+01 | 2.88E-01 | 4.97E-04 | 3.17E-02 | 0.00E+00 |
| IN | IN-W281.487 | 317.82 | 0.00E+00 | 0.00E+00 | 4.58E+03 | 2.16E+01 | 1.09E-02 | 6.99E-01 | 0.00E+00 |
| IN | IN-W281.488 | 0.62 | 0.00E+00 | 0.00E+00 | 8.98E+02 | 4.24E+00 | 2.15E-03 | 1.37E-01 | 0.00E+00 |
| IN | IN-W283.481 | 0.21 | 0.00E+00 | 0.00E+00 | 5.63E-02 | 1.56E+00 | 3.44E-01 | 6.42E+00 | 0.00E+00 |
| IN | IN-W283.534 | 0.68 | 0.00E+00 | 0.00E+00 | 1.84E-01 | 5.11E+00 | 1.13E+00 | 2.10E+01 | 0.00E+00 |
| IN | IN-W283.963 | 0.21 | 0.00E+00 | 0.00E+00 | 1.88E-01 | 5.20E+00 | 1.15E+00 | 2.14E+01 | 0.00E+00 |
| IN | IN-W285.471 | 63.02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.66E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W285.815 | 2.34 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.19E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W287.460 | 211.95 | 4.68E-01 | 0.00E+00 | 0.00E+00 | 5.04E+01 | 5.84E+02 | 3.80E+01 | 0.00E+00 |
| IN | IN-W289.466 | 25.38 | 1.31E+01 | 0.00E+00 | 0.00E+00 | 1.38E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W291.454 | 0.68 | 3.95E-01 | 0.00E+00 | 0.00E+00 | 1.36E-01 | 5.93E-01 | 0.00E+00 | 0.00E+00 |
| IN | IN-W291.455 | 1.46 | 8.45E+01 | 0.00E+00 | 0.00E+00 | 2.91E+01 | 1.27E+02 | 0.00E+00 | 0.00E+00 |
| IN | IN-W291.456 | 634.40 | 3.68E+02 | 0.00E+00 | 0.00E+00 | 1.27E+02 | 5.53E+02 | 0.00E+00 | 0.00E+00 |

TABLE - 1
SCALED VOLUME AND ACTIVITIES FOR SELECTED RADIONUCLIDES FOR EACH WASTE STREAM

| SITE | Waste Stream ID# | Scaled Volume (m3) | SCALED TOTAL CURIES OF EACH RADIONUCLIDE FOR EACH WASTE STREAM | | | | | | |
|------|------------------|--------------------|--|---------------|---------------|---------------|---------------|---------------|--------------|
| | | | Scaled Am-241 | Scaled Cm-244 | Scaled Pu-238 | Scaled Pu-239 | Scaled Pu-240 | Scaled Pu-241 | Scaled U-234 |
| IN | IN-W294.1057 | 0.42 | 1.16E-01 | 0.00E+00 | 1.45E-01 | 4.03E+00 | 8.88E-01 | 1.66E+01 | 0.00E+00 |
| IN | IN-W294.342 | 406.85 | 3.40E+01 | 0.00E+00 | 4.26E+01 | 1.18E+03 | 2.61E+02 | 4.86E+03 | 0.00E+00 |
| IN | IN-W294.814 | 33.50 | 2.80E+00 | 0.00E+00 | 3.51E+00 | 9.73E+01 | 2.15E+01 | 4.00E+02 | 0.00E+00 |
| IN | IN-W296.327 | 3450.30 | 9.73E+01 | 0.00E+00 | 8.37E+01 | 2.32E+03 | 5.12E+02 | 9.54E+03 | 0.00E+00 |
| IN | IN-W296.329 | 520.21 | 4.89E+01 | 0.00E+00 | 4.20E+01 | 1.17E+03 | 2.57E+02 | 4.79E+03 | 0.00E+00 |
| IN | IN-W296.813 | 47.99 | 1.35E+00 | 0.00E+00 | 1.16E+00 | 3.22E+01 | 7.12E+00 | 1.33E+02 | 0.00E+00 |
| IN | IN-W298.317 | 54.70 | 7.31E+01 | 0.00E+00 | 2.19E+01 | 6.08E+02 | 1.34E+02 | 2.50E+03 | 0.00E+00 |
| IN | IN-W298.812 | 15.37 | 2.05E+01 | 0.00E+00 | 6.16E+00 | 1.71E+02 | 3.77E+01 | 7.03E+02 | 0.00E+00 |
| IN | IN-W298.979 | 0.42 | 1.85E+00 | 0.00E+00 | 5.56E-01 | 1.54E+01 | 3.40E+00 | 6.34E+01 | 0.00E+00 |
| IN | IN-W300.308 | 1509.46 | 2.05E+02 | 0.00E+00 | 8.83E+01 | 2.45E+03 | 5.40E+02 | 1.01E+04 | 0.00E+00 |
| IN | IN-W300.930 | 4.69 | 6.36E-01 | 0.00E+00 | 2.74E-01 | 7.60E+00 | 1.68E+00 | 3.13E+01 | 0.00E+00 |
| IN | IN-W302.299 | 23.45 | 2.05E+01 | 0.00E+00 | 0.00E+00 | 3.08E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W302.913 | 84.86 | 7.43E+01 | 0.00E+00 | 0.00E+00 | 1.11E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W304.860 | 8.75 | 0.00E+00 | 0.00E+00 | 4.77E+02 | 2.49E+00 | 5.13E-01 | 9.79E-01 | 0.00E+00 |
| IN | IN-W304.861 | 59.07 | 0.00E+00 | 0.00E+00 | 3.22E+03 | 1.68E+01 | 3.46E+00 | 6.61E+00 | 0.00E+00 |
| IN | IN-W305.1068 | 37.44 | 0.00E+00 | 0.00E+00 | 3.61E+03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W305.828 | 10.68 | 0.00E+00 | 0.00E+00 | 1.03E+03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W308.618 | 503.57 | 3.17E+03 | 0.00E+00 | 1.53E+02 | 1.13E+03 | 2.53E+01 | 4.72E+02 | 0.00E+00 |
| IN | IN-W308.816 | 864.91 | 8.18E+02 | 0.00E+00 | 3.95E+01 | 2.92E+02 | 6.52E+00 | 1.21E+02 | 0.00E+00 |
| IN | IN-W309.609 | 108.58 | 1.25E+01 | 0.00E+00 | 3.00E+00 | 8.31E+01 | 1.83E+01 | 3.42E+02 | 0.00E+00 |
| IN | IN-W309.610 | 352.77 | 2.03E+01 | 0.00E+00 | 4.87E+00 | 1.35E+02 | 2.98E+01 | 5.55E+02 | 0.00E+00 |
| IN | IN-W311.1013 | 5.41 | 6.81E+02 | 0.00E+00 | 6.51E+00 | 1.80E+02 | 3.98E+01 | 7.42E+02 | 0.00E+00 |
| IN | IN-W311.604 | 1.72 | 2.17E+02 | 0.00E+00 | 2.07E+00 | 5.74E+01 | 1.27E+01 | 2.36E+02 | 0.00E+00 |
| IN | IN-W312.602 | 1.10 | 0.00E+00 | 0.00E+00 | 1.78E+00 | 4.92E+01 | 1.09E+01 | 2.02E+02 | 0.00E+00 |
| IN | IN-W312.942 | 2.70 | 0.00E+00 | 0.00E+00 | 4.38E+00 | 1.21E+02 | 2.68E+01 | 4.99E+02 | 0.00E+00 |
| IN | IN-W314.1017 | 1.04 | 9.73E-02 | 0.00E+00 | 1.46E+00 | 4.03E+01 | 8.90E+00 | 1.66E+02 | 0.00E+00 |
| IN | IN-W314.606 | 0.68 | 6.37E-02 | 0.00E+00 | 9.52E-01 | 2.64E+01 | 5.82E+00 | 1.09E+02 | 0.00E+00 |
| IN | IN-W315.601 | 0.42 | 2.99E+01 | 0.00E+00 | 1.14E-02 | 3.16E-01 | 6.97E-02 | 1.30E+00 | 0.00E+00 |
| IN | IN-W317.1028 | 0.21 | 1.26E+00 | 0.00E+00 | 1.44E-01 | 3.99E+00 | 8.80E-01 | 1.64E+01 | 0.00E+00 |
| IN | IN-W317.757 | 39.10 | 1.19E+02 | 0.00E+00 | 1.35E+01 | 3.75E+02 | 8.28E+01 | 1.54E+03 | 0.00E+00 |
| IN | IN-W317.758 | 11.51 | 3.50E+01 | 0.00E+00 | 3.98E+00 | 1.10E+02 | 2.44E+01 | 4.54E+02 | 0.00E+00 |
| IN | IN-W319.583 | 0.21 | 0.00E+00 | 0.00E+00 | 1.24E+01 | 3.43E+02 | 7.57E+01 | 1.41E+03 | 0.00E+00 |
| IN | IN-W319.584 | 0.68 | 0.00E+00 | 0.00E+00 | 4.05E-01 | 1.12E+01 | 2.48E+00 | 4.62E+01 | 0.00E+00 |
| IN | IN-W321.1023 | 1.30 | 0.00E+00 | 0.00E+00 | 1.57E+00 | 4.35E+01 | 9.60E+00 | 1.79E+02 | 0.00E+00 |
| IN | IN-W321.578 | 0.21 | 0.00E+00 | 0.00E+00 | 2.50E+01 | 6.94E+02 | 1.53E+02 | 2.85E+03 | 0.00E+00 |
| IN | IN-W322.851 | 0.89 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.20E+01 | 2.42E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W322.952 | 1.66 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.24E+01 | 4.53E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W323.562 | 0.89 | 0.00E+00 | 0.00E+00 | 1.82E+00 | 3.28E-01 | 0.00E+00 | 2.61E+00 | 0.00E+00 |
| IN | IN-W325.1076 | 0.42 | 0.00E+00 | 0.00E+00 | 1.27E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W325.679 | 0.68 | 0.00E+00 | 0.00E+00 | 2.07E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

TABLE - 1
SCALED VOLUME AND ACTIVITIES FOR SELECTED RADIONUCLIDES FOR EACH WASTE STREAM

| SITE | Waste Stream ID# | Scaled Volume (m3) | SCALED TOTAL CURIES OF EACH RADIONUCLIDE FOR EACH WASTE STREAM | | | | | | |
|------|------------------|--------------------|--|---------------|---------------|---------------|---------------|---------------|--------------|
| | | | Scaled Am-241 | Scaled Cm-244 | Scaled Pu-238 | Scaled Pu-239 | Scaled Pu-240 | Scaled Pu-241 | Scaled U-234 |
| IN | IN-W327.1083 | 3.54 | 0.00E+00 | 0.00E+00 | 7.43E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W327.735 | 1.30 | 0.00E+00 | 0.00E+00 | 2.74E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W329.681 | 0.89 | 0.00E+00 | 0.00E+00 | 1.02E+02 | 4.37E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W329.682 | 0.21 | 0.00E+00 | 0.00E+00 | 1.60E+02 | 6.82E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W330.677 | 6.03 | 0.00E+00 | 0.00E+00 | 3.67E+02 | 2.88E-03 | 1.46E-03 | 9.35E-02 | 0.00E+00 |
| IN | IN-W330.678 | 1.93 | 0.00E+00 | 0.00E+00 | 1.17E+02 | 9.21E-04 | 4.68E-04 | 2.99E-02 | 0.00E+00 |
| IN | IN-W332.661 | 0.68 | 0.00E+00 | 0.00E+00 | 6.89E+00 | 4.88E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W332.962 | 0.83 | 0.00E+00 | 0.00E+00 | 8.42E+00 | 5.97E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W334.675 | 1.51 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.30E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W334.961 | 4.58 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.93E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W336.660 | 4.16 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.68E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W336.820 | 0.68 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.29E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W338.657 | 0.89 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.83E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W338.956 | 1.04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.48E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W339.655 | 2.14 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.17E+01 | 8.60E-02 | 0.00E+00 | 0.00E+00 |
| IN | IN-W339.955 | 7.07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.19E+01 | 2.85E-01 | 0.00E+00 | 0.00E+00 |
| IN | IN-W341.671 | 0.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.80E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W341.954 | 0.68 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.89E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W342.652 | 0.68 | 5.65E+00 | 0.00E+00 | 0.00E+00 | 4.05E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W342.953 | 0.42 | 3.45E+00 | 0.00E+00 | 0.00E+00 | 2.48E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W345.669 | 14.35 | 9.51E+01 | 0.00E+00 | 2.25E+01 | 1.79E+01 | 1.10E+01 | 0.00E+00 | 0.00E+00 |
| IN | IN-W345.819 | 0.89 | 5.89E+00 | 0.00E+00 | 1.39E+00 | 1.11E+00 | 6.84E-01 | 0.00E+00 | 0.00E+00 |
| IN | IN-W347.646 | 51.79 | 2.06E+00 | 0.00E+00 | 0.00E+00 | 5.84E+01 | 1.04E+02 | 0.00E+00 | 0.00E+00 |
| IN | IN-W347.818 | 3.44 | 1.37E-01 | 0.00E+00 | 0.00E+00 | 3.88E+00 | 6.91E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W348.1012 | 2.34 | 3.28E-02 | 0.00E+00 | 3.19E+00 | 8.84E+01 | 1.95E+01 | 3.64E+02 | 0.00E+00 |
| IN | IN-W348.846 | 4.16 | 1.16E-01 | 0.00E+00 | 1.13E+01 | 3.14E+02 | 6.92E+01 | 1.29E+03 | 0.00E+00 |
| IN | IN-W350.650 | 0.68 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.60E+01 | 1.07E+02 | 0.00E+00 | 0.00E+00 |
| IN | IN-W350.923 | 0.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.10E+01 | 3.27E+01 | 0.00E+00 | 0.00E+00 |
| IN | IN-W351.648 | 0.89 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.43E+00 | 4.79E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W351.922 | 1.25 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.01E+00 | 6.72E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W353.859 | 0.68 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.53E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W353.917 | 0.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.30E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W354.1016 | 0.21 | 0.00E+00 | 0.00E+00 | 3.99E-02 | 1.11E+00 | 2.44E-01 | 4.55E+00 | 0.00E+00 |
| IN | IN-W354.858 | 0.68 | 0.00E+00 | 0.00E+00 | 1.31E-01 | 3.62E+00 | 7.98E-01 | 1.49E+01 | 0.00E+00 |
| IN | IN-W355.1015 | 1.04 | 0.00E+00 | 0.00E+00 | 1.01E+00 | 2.79E+01 | 6.16E+00 | 1.15E+02 | 0.00E+00 |
| IN | IN-W355.857 | 0.89 | 0.00E+00 | 0.00E+00 | 8.60E-01 | 2.38E+01 | 5.26E+00 | 9.81E+01 | 0.00E+00 |
| IN | IN-W356.1014 | 3.74 | 6.31E+01 | 0.00E+00 | 3.62E-01 | 1.00E+01 | 2.22E+00 | 4.13E+01 | 0.00E+00 |
| IN | IN-W356.856 | 1.30 | 2.20E+01 | 0.00E+00 | 1.26E-01 | 3.50E+00 | 7.72E-01 | 1.44E+01 | 0.00E+00 |
| IN | IN-W357.1022 | 0.68 | 0.00E+00 | 0.00E+00 | 9.89E-03 | 2.74E-01 | 6.05E-02 | 1.13E+00 | 0.00E+00 |
| IN | IN-W357.850 | 0.21 | 0.00E+00 | 0.00E+00 | 6.05E-03 | 1.68E-01 | 3.70E-02 | 6.89E-01 | 0.00E+00 |

TABLE - 1
SCALED VOLUME AND ACTIVITIES FOR SELECTED RADIONUCLIDES FOR EACH WASTE STREAM

| SITE | Waste | Scaled Volume (m3) | SCALED TOTAL CURIES OF EACH RADIONUCLIDE FOR EACH WASTE STREAM | | | | | | |
|------|--------------|-----------------------|--|---------------|---------------|---------------|---------------|---------------|--------------|
| | Stream ID# | | Scaled Am-241 | Scaled Cm-244 | Scaled Pu-238 | Scaled Pu-239 | Scaled Pu-240 | Scaled Pu-241 | Scaled U-234 |
| IN | IN-W358.854 | 0.89 | 0.00E+00 | 0.00E+00 | 5.56E+02 | 2.47E+00 | 4.62E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W358.855 | 3.33 | 0.00E+00 | 0.00E+00 | 2.08E+03 | 9.26E+00 | 1.73E+01 | 0.00E+00 | 0.00E+00 |
| IN | IN-W358.948 | 0.21 | 0.00E+00 | 0.00E+00 | 4.34E+02 | 1.93E+00 | 3.61E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W359.853 | 0.83 | 0.00E+00 | 0.00E+00 | 1.10E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| IN | IN-W361.1021 | 1.51 | 1.10E-02 | 0.00E+00 | 7.65E-01 | 2.12E+01 | 4.68E+00 | 8.73E+01 | 0.00E+00 |
| IN | IN-W361.849 | 2.08 | 3.04E-02 | 0.00E+00 | 2.10E+00 | 5.83E+01 | 1.29E+01 | 2.40E+02 | 0.00E+00 |
| IN | IN-W362.1020 | 5.37 | 0.00E+00 | 0.00E+00 | 8.63E+00 | 2.39E+02 | 5.28E+01 | 9.84E+02 | 0.00E+00 |
| IN | IN-W362.848 | 8.74 | 0.00E+00 | 0.00E+00 | 2.81E+01 | 7.78E+02 | 1.72E+02 | 3.20E+03 | 0.00E+00 |
| IN | IN-W363.1019 | 0.89 | 0.00E+00 | 0.00E+00 | 5.76E-01 | 1.60E+01 | 3.52E+00 | 6.57E+01 | 0.00E+00 |
| IN | IN-W363.847 | 1.04 | 0.00E+00 | 0.00E+00 | 1.35E+00 | 3.74E+01 | 8.25E+00 | 1.54E+02 | 0.00E+00 |
| IN | IN-W364.1011 | 0.89 | 0.00E+00 | 0.00E+00 | 1.43E+00 | 3.96E+01 | 8.74E+00 | 1.63E+02 | 0.00E+00 |
| IN | IN-W364.844 | 0.62 | 0.00E+00 | 0.00E+00 | 2.01E+00 | 5.56E+01 | 1.23E+01 | 2.29E+02 | 0.00E+00 |
| IN | IN-W365.1010 | 1.30 | 9.68E+01 | 0.00E+00 | 5.77E-01 | 1.60E+01 | 3.53E+00 | 6.58E+01 | 0.00E+00 |
| IN | IN-W365.842 | 1.04 | 2.57E+02 | 0.00E+00 | 1.53E+00 | 4.25E+01 | 9.38E+00 | 1.75E+02 | 0.00E+00 |
| IN | IN-W366.1004 | 2.08 | 3.52E-01 | 0.00E+00 | 5.01E-01 | 1.39E+01 | 3.06E+00 | 5.71E+01 | 0.00E+00 |
| IN | IN-W366.841 | 1.10 | 1.86E-01 | 0.00E+00 | 2.64E-01 | 7.31E+00 | 1.61E+00 | 3.01E+01 | 0.00E+00 |
| IN | IN-W367.840 | 0.21 | 0.00E+00 | 0.00E+00 | 1.03E+01 | 2.85E+02 | 6.29E+01 | 1.17E+03 | 0.00E+00 |
| IN | IN-W367.973 | 4.69 | 0.00E+00 | 0.00E+00 | 2.32E+00 | 6.42E+01 | 1.42E+01 | 2.64E+02 | 0.00E+00 |
| IN | IN-W368.839 | 0.21 | 0.00E+00 | 0.00E+00 | 2.64E+00 | 7.31E+01 | 1.61E+01 | 3.01E+02 | 0.00E+00 |
| IN | IN-W368.971 | 1.10 | 0.00E+00 | 0.00E+00 | 1.39E-01 | 3.85E+00 | 8.50E-01 | 1.58E+01 | 0.00E+00 |
| IN | IN-W369.837 | 3.23 | 5.43E-01 | 0.00E+00 | 7.35E-01 | 2.04E+01 | 4.49E+00 | 8.38E+01 | 0.00E+00 |
| IN | IN-W369.970 | 9.98 | 1.68E+00 | 0.00E+00 | 2.27E+00 | 6.29E+01 | 1.39E+01 | 2.59E+02 | 0.00E+00 |
| IN | IN-W370.836 | 15.16 | 0.00E+00 | 0.00E+00 | 4.22E+00 | 1.17E+02 | 2.58E+01 | 4.81E+02 | 0.00E+00 |
| IN | IN-W370.929 | 53.46 | 0.00E+00 | 0.00E+00 | 1.49E+01 | 4.12E+02 | 9.10E+01 | 1.70E+03 | 0.00E+00 |
| IN | IN-W371.1018 | 0.21 | 1.16E+02 | 0.00E+00 | 3.23E-01 | 8.95E+00 | 1.98E+00 | 3.68E+01 | 0.00E+00 |
| IN | IN-W371.831 | 0.68 | 3.79E+02 | 0.00E+00 | 1.06E+00 | 2.93E+01 | 6.46E+00 | 1.20E+02 | 0.00E+00 |
| IN | IN-W373.1003 | 0.68 | 0.00E+00 | 0.00E+00 | 1.24E+00 | 3.43E+01 | 7.56E+00 | 1.41E+02 | 0.00E+00 |
| IN | IN-W373.830 | 0.21 | 0.00E+00 | 0.00E+00 | 7.56E-01 | 2.10E+01 | 4.63E+00 | 8.62E+01 | 0.00E+00 |
| IN | IN-W374.1091 | 2.08 | 0.00E+00 | 0.00E+00 | 5.32E-01 | 1.47E+01 | 3.25E+00 | 6.07E+01 | 0.00E+00 |
| IN | IN-W374.829 | 2.34 | 0.00E+00 | 0.00E+00 | 1.50E-01 | 4.15E+00 | 9.17E-01 | 1.71E+01 | 0.00E+00 |
| IN | IN-W375.1096 | 4.48 | 0.00E+00 | 0.00E+00 | 3.38E-02 | 9.38E-01 | 2.07E-01 | 3.86E+00 | 0.00E+00 |
| IN | IN-W375.827 | 7.90 | 0.00E+00 | 0.00E+00 | 1.19E-01 | 3.31E+00 | 7.30E-01 | 1.36E+01 | 0.00E+00 |
| LA | LA-M002 | 6706.45 | 7.02E+03 | 0.00E+00 | 2.06E+02 | 4.68E+03 | 0.00E+00 | 1.12E-01 | 3.88E+01 |
| LA | LA-T001 | 3787.32 | 0.00E+00 | 8.14E-03 | 1.91E+03 | 1.33E+03 | 6.21E-01 | 1.09E+01 | 0.00E+00 |
| LA | LA-T002 | 193.71 | 9.07E+01 | 0.00E+00 | 8.55E+00 | 4.33E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| LA | LA-T004 | 12629.26 | 4.68E+01 | 4.25E+02 | 2.55E+05 | 1.17E+04 | 2.84E+01 | 6.03E+02 | 1.13E+02 |
| LA | LA-T005 | 8885.76 | 8.79E+01 | 8.19E+02 | 1.98E+05 | 4.64E+04 | 1.00E+02 | 1.71E+03 | 7.56E+01 |
| LA | LA-T006 | 543.32 | 8.38E+01 | 0.00E+00 | 3.15E+04 | 8.64E+02 | 2.37E+00 | 5.17E+01 | 5.44E+00 |
| LA | LA-T007 | 198.91 | 0.00E+00 | 0.00E+00 | 3.53E+02 | 1.71E+03 | 1.12E-01 | 1.87E+00 | 1.95E+00 |
| LA | LA-T008 | 302.83 | 3.61E-03 | 0.00E+00 | 3.53E+02 | 1.72E+02 | 2.01E-03 | 1.24E-01 | 0.00E+00 |

B2-11

TABLE - 1
SCALED VOLUME AND ACTIVITIES FOR SELECTED RADIONUCLIDES FOR EACH WASTE STREAM

| SITE | Waste Stream ID# | Scaled Volume (m3) | SCALED TOTAL CURIES OF EACH RADIONUCLIDE FOR EACH WASTE STREAM | | | | | | Scaled U-234 |
|------|------------------|--------------------|--|---------------|---------------|---------------|---------------|---------------|--------------|
| | | | Scaled Am-241 | Scaled Cm-244 | Scaled Pu-238 | Scaled Pu-239 | Scaled Pu-240 | Scaled Pu-241 | |
| LA | LA-T009 | 438.06 | 0.00E+00 | 0.00E+00 | 1.79E+01 | 5.24E+02 | 1.40E+00 | 4.28E+01 | 0.00E+00 |
| LA | LA-W001 | 3126.19 | 2.74E-03 | 0.00E+00 | 5.14E+03 | 2.42E+03 | 7.14E-01 | 1.13E+01 | 1.07E+01 |
| LA | LA-W003 | 4968.84 | 3.42E+02 | 0.00E+00 | 2.97E+02 | 3.30E+03 | 0.00E+00 | 3.42E-03 | 0.00E+00 |
| LA | LA-W004 | 4880.50 | 6.00E+01 | 0.00E+00 | 4.02E+04 | 3.04E+04 | 7.56E+01 | 1.26E+03 | 4.68E+01 |
| LA | LA-W005 | 4828.92 | 7.97E+01 | 0.00E+00 | 8.01E+03 | 1.90E+05 | 4.98E+02 | 8.81E+03 | 4.68E+01 |
| LA | LA-W006 | 6097.49 | 3.36E+04 | 0.00E+00 | 1.62E+04 | 6.31E+04 | 1.53E+02 | 2.72E+03 | 5.64E+01 |
| LA | LA-W009 | 1989.53 | 1.21E+03 | 0.00E+00 | 1.23E+00 | 1.19E+02 | 2.84E-01 | 4.49E+00 | 0.00E+00 |
| LA | LA-W066 | 1.89 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| LA | LA-W067 | 8.94 | 1.46E-01 | 4.61E+00 | 4.76E+00 | 3.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| LA | LA-W068 | 0.42 | 0.00E+00 | 0.00E+00 | 1.76E-01 | 6.11E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| LL | LL-M001 | 119.39 | 1.94E+02 | 3.79E+02 | 3.16E+02 | 7.52E+01 | 5.27E+01 | 1.46E+03 | 0.00E+00 |
| LL | LL-T001 | 52.80 | 3.44E+01 | 0.00E+00 | 0.00E+00 | 3.34E+01 | 1.86E+01 | 5.01E+02 | 0.00E+00 |
| LL | LL-T002 | 3368.07 | 3.71E+03 | 0.00E+00 | 1.15E+03 | 2.41E+03 | 1.62E+03 | 4.54E+04 | 0.00E+00 |
| LL | LL-T003 | 917.30 | 8.32E+01 | 0.00E+00 | 7.50E+01 | 3.44E+01 | 3.79E+01 | 1.03E+03 | 0.00E+00 |
| LL | LL-T004 | 20.54 | 3.59E+01 | 0.00E+00 | 1.04E+01 | 1.25E+01 | 1.61E+01 | 4.49E+02 | 0.00E+00 |
| LL | LL-T005 | 228.68 | 7.41E+01 | 9.85E+02 | 4.20E+01 | 1.67E+01 | 2.04E+01 | 5.65E+02 | 0.00E+00 |
| LL | LL-W018 | 176.59 | 1.13E+00 | 0.00E+00 | 0.00E+00 | 4.40E-01 | 1.67E+00 | 4.45E+01 | 0.00E+00 |
| LL | LL-W019 | 39.49 | 3.04E+01 | 0.00E+00 | 0.00E+00 | 9.15E+00 | 1.23E+01 | 3.40E+02 | 0.00E+00 |
| MD | MD-M001 | 0.42 | 0.00E+00 | 0.00E+00 | 4.26E-01 | 9.63E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MD | MD-T001 | 4.16 | 0.00E+00 | 0.00E+00 | 3.14E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MD | MD-T003 | 146.94 | 0.00E+00 | 0.00E+00 | 2.42E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MD | MD-T004 | 26.84 | 0.00E+00 | 0.00E+00 | 8.68E+02 | 7.72E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MD | MD-T005 | 30.24 | 0.00E+00 | 0.00E+00 | 2.74E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MD | MD-T006 | 58.59 | 0.00E+00 | 0.00E+00 | 1.97E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MD | MD-T007 | 23.89 | 0.00E+00 | 0.00E+00 | 1.93E+02 | 7.34E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MD | MD-T008 | 3.74 | 0.00E+00 | 0.00E+00 | 6.40E+01 | 8.67E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MD | MD-T009 | 0.21 | 0.00E+00 | 0.00E+00 | 4.04E+00 | 1.35E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MD | MD-T010 | 0.42 | 0.00E+00 | 0.00E+00 | 2.13E-01 | 4.82E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MD | MD-T012 | 0.62 | 0.00E+00 | 0.00E+00 | 7.64E+00 | 4.87E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MD | MD-W002 | 1.87 | 0.00E+00 | 0.00E+00 | 8.50E+00 | 3.38E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MD | MD-W003 | 1.66 | 0.00E+00 | 0.00E+00 | 9.28E+01 | 7.97E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MD | MD-W017 | 1.46 | 0.00E+00 | 0.00E+00 | 2.43E+02 | 4.37E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| NT | NT-W001 | 672.55 | 3.01E+02 | 2.57E+02 | 2.05E+02 | 2.81E+03 | 1.42E+01 | 1.67E+02 | 3.22E-02 |
| NT | NT-W021 | 5.67 | 0.00E+00 | 0.00E+00 | 1.43E+00 | 3.17E+01 | 5.33E+00 | 8.26E+01 | 0.00E+00 |
| OR | OR-W041 | 170.77 | 4.21E-01 | 0.00E+00 | 1.05E+00 | 4.91E+01 | 1.99E+01 | 1.76E+02 | 1.64E-01 |
| OR | OR-W044 | 2214.79 | 6.08E+00 | 3.45E+03 | 8.02E+02 | 7.09E+01 | 1.61E+03 | 1.30E+05 | 5.77E-02 |
| OR | OR-W045 | 5.41 | 0.00E+00 | 0.00E+00 | 5.09E+01 | 2.39E+02 | 3.38E+02 | 3.39E+03 | 0.00E+00 |
| OR | OR-W047 | 154.13 | 8.38E-01 | 3.32E+02 | 1.66E+02 | 1.32E+01 | 1.76E+01 | 1.56E+03 | 0.00E+00 |
| OR | OR-W048 | 15.18 | 0.00E+00 | 5.87E+01 | 0.00E+00 | 6.38E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| OR | OR-W049 | 17.68 | 0.00E+00 | 0.00E+00 | 3.00E+03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

TABLE - 1
SCALED VOLUME AND ACTIVITIES FOR SELECTED RADIONUCLIDES FOR EACH WASTE STREAM

| SITE | Waste Stream ID# | Scaled Volume (m3) | SCALED TOTAL CURIES OF EACH RADIONUCLIDE FOR EACH WASTE STREAM | | | | | | |
|--------|------------------|--------------------|--|---------------|---------------|---------------|---------------|---------------|--------------|
| | | | Scaled Am-241 | Scaled Cm-244 | Scaled Pu-238 | Scaled Pu-239 | Scaled Pu-240 | Scaled Pu-241 | Scaled U-234 |
| OR | OR-W053 | 435.76 | 1.61E+03 | 7.25E+00 | 1.97E-03 | 6.71E+02 | 7.15E+00 | 8.93E-01 | 1.55E+01 |
| RF | RF-MT-0335 | 2645.01 | 1.75E+03 | 0.00E+00 | 0.00E+00 | 2.15E+04 | 2.96E+04 | 1.72E+05 | 0.00E+00 |
| RF | RF-MT-0368 | 19.85 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.90E+02 | 3.82E+02 | 2.43E+02 | 0.00E+00 |
| RF | RF-MT-0438 | 104.79 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.66E+03 | 0.00E+00 |
| RF | RF-MT-0491 | 176.40 | 1.17E+02 | 0.00E+00 | 0.00E+00 | 1.44E+03 | 1.98E+03 | 1.15E+04 | 0.00E+00 |
| RF | RF-MT-0823 | 0.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.76E+00 | 6.32E+00 | 3.32E+01 | 0.00E+00 |
| RF | RF-MT0001 | 3.74 | 1.34E+02 | 0.00E+00 | 0.00E+00 | 1.60E+01 | 1.16E+01 | 6.06E+01 | 0.00E+00 |
| RF | RF-MT0003 | 0.62 | 2.92E+00 | 0.00E+00 | 0.00E+00 | 2.43E+00 | 1.77E+00 | 9.21E+01 | 0.00E+00 |
| RF | RF-MT0007 | 0.83 | 2.98E+01 | 0.00E+00 | 0.00E+00 | 3.56E+00 | 2.57E+00 | 1.35E+01 | 0.00E+00 |
| RF | RF-MT0320 | 130.54 | 3.65E+03 | 0.00E+00 | 0.00E+00 | 6.93E+03 | 9.41E+03 | 5.46E+04 | 0.00E+00 |
| RF | RF-MT0321 | 55.93 | 1.16E+02 | 0.00E+00 | 0.00E+00 | 8.98E+01 | 1.12E+02 | 6.46E+02 | 0.00E+00 |
| RF | RF-MT0339 | 934.74 | 2.06E+04 | 0.00E+00 | 0.00E+00 | 9.77E+03 | 1.30E+04 | 7.49E+04 | 0.00E+00 |
| RF | RF-MT0374 | 1.25 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.27E+00 | 4.54E+00 | 2.37E+01 | 0.00E+00 |
| RF | RF-MT0375 | 0.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.45E-01 | 1.77E-01 | 9.97E-01 | 0.00E+00 |
| RF | RF-MT0377 | 3.54 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.54E+02 | 1.11E+02 | 5.81E+02 | 0.00E+00 |
| RF | RF-MT0440 | 637.99 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.06E+03 | 2.71E+03 | 1.58E+04 | 0.00E+00 |
| RF | RF-MT0442 | 1117.64 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.59E+03 | 4.74E+03 | 2.76E+04 | 0.00E+00 |
| RF | RF-MT0444 | 58.13 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.92E+01 | 5.04E+01 | 2.89E+02 | 0.00E+00 |
| RF | RF-MT0480 | 1983.22 | 3.91E+04 | 0.00E+00 | 0.00E+00 | 9.97E+03 | 1.37E+04 | 7.95E+04 | 0.00E+00 |
| RF | RF-MT0800 | 322.32 | 7.94E+03 | 0.00E+00 | 0.00E+00 | 6.09E+02 | 6.55E+02 | 3.69E+03 | 0.00E+00 |
| RF | RF-MT0801 | 108.99 | 5.10E+02 | 0.00E+00 | 0.00E+00 | 4.25E+02 | 3.08E+02 | 1.61E+04 | 0.00E+00 |
| RF | RF-MT0803 | 16.64 | 4.03E+02 | 0.00E+00 | 0.00E+00 | 3.00E+01 | 3.32E+01 | 1.88E+02 | 0.00E+00 |
| RF | RF-MT0807 | 348.08 | 8.61E+03 | 0.00E+00 | 0.00E+00 | 6.65E+02 | 7.10E+02 | 4.00E+03 | 0.00E+00 |
| RF | RF-MT0821 | 0.42 | 5.39E+00 | 0.00E+00 | 0.00E+00 | 3.27E+00 | 2.36E+00 | 1.24E+01 | 0.00E+00 |
| RF | RF-MT0831 | 1522.20 | 1.22E+04 | 0.00E+00 | 0.00E+00 | 3.83E+03 | 5.04E+03 | 2.92E+04 | 0.00E+00 |
| RF | RF-MT0832 | 2433.05 | 1.95E+04 | 0.00E+00 | 0.00E+00 | 6.12E+03 | 8.05E+03 | 4.66E+04 | 0.00E+00 |
| RF | RF-MT0833 | 318.79 | 2.55E+03 | 0.00E+00 | 0.00E+00 | 7.98E+02 | 1.05E+03 | 6.10E+03 | 0.00E+00 |
| RF | RF-MT0855 | 11.19 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.09E+00 | 9.50E+00 | 5.48E+01 | 0.00E+00 |
| RF | RF-MT0856 | 35.91 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.15E+02 | 1.52E+02 | 8.86E+02 | 0.00E+00 |
| RF | RF-MT2116 | 2.08 | 1.27E+02 | 0.00E+00 | 0.00E+00 | 7.04E+01 | 5.56E+01 | 2.92E+02 | 0.00E+00 |
| RF-RES | RF-RESIDUES | 2800.00 | 1.19E+05 | 0.00E+00 | 8.09E+03 | 1.84E+05 | 4.22E+04 | 7.22E+05 | 2.03E-01 |
| RF | RF-T010 | 0.62 | 2.24E+01 | 0.00E+00 | 0.00E+00 | 2.67E+00 | 1.93E+00 | 1.01E+01 | 0.00E+00 |
| RF | RF-TT0300 | 44.48 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.96E+02 | 9.95E+02 | 5.55E+03 | 0.00E+00 |
| RF | RF-TT0303 | 0.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.28E+00 | 6.70E+00 | 3.51E+01 | 0.00E+00 |
| RF | RF-TT0312 | 278.03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.72E+03 | 5.11E+03 | 2.97E+04 | 0.00E+00 |
| RF | RF-TT0320 | 29.29 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.61E+02 | 1.08E+03 | 6.15E+03 | 0.00E+00 |
| RF | RF-TT0335 | 373.65 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.33E+03 | 8.11E+03 | 4.66E+04 | 0.00E+00 |
| RF | RF-TT0338 | 40.53 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.86E+02 | 8.79E+02 | 5.05E+03 | 0.00E+00 |
| RF | RF-TT0374 | 0.62 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.14E+00 | 2.27E+00 | 1.19E+01 | 0.00E+00 |
| RF | RF-TT0376 | 91.34 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.84E+03 | 2.21E+03 | 1.27E+04 | 0.00E+00 |

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TABLE - 1
SCALED VOLUME AND ACTIVITIES FOR SELECTED RADIONUCLIDES FOR EACH WASTE STREAM

| SITE | Waste | Scaled | SCALED TOTAL CURIES OF EACH RADIONUCLIDE FOR EACH WASTE STREAM | | | | | | |
|------|------------|-------------|--|---------------|---------------|---------------|---------------|---------------|--------------|
| | Stream ID# | Volume (m3) | Scaled Am-241 | Scaled Cm-244 | Scaled Pu-238 | Scaled Pu-239 | Scaled Pu-240 | Scaled Pu-241 | Scaled U-234 |
| RF | RF-TT0438 | 55.76 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.54E+02 | 9.83E+02 | 5.57E+03 | 0.00E+00 |
| RF | RF-TT0440 | 149.76 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.90E+02 | 8.99E+02 | 5.19E+03 | 0.00E+00 |
| RF | RF-TT0442 | 181.82 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.05E+03 | 1.18E+03 | 6.71E+03 | 0.00E+00 |
| RF | RF-TT0480 | 1446.53 | 1.53E+04 | 0.00E+00 | 0.00E+00 | 5.00E+03 | 6.38E+03 | 3.67E+04 | 0.00E+00 |
| RF | RF-TT0481 | 0.21 | 3.50E+00 | 0.00E+00 | 0.00E+00 | 2.14E+00 | 1.55E+00 | 8.10E+00 | 0.00E+00 |
| RF | RF-TT0490 | 186.97 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.61E+03 | 4.26E+03 | 2.42E+04 | 0.00E+00 |
| RF | RF-TT0491 | 16.02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.10E+02 | 5.87E+02 | 3.06E+03 | 0.00E+00 |
| RF | RF-TT0802 | 179.15 | 6.22E+03 | 0.00E+00 | 0.00E+00 | 8.72E+01 | 1.13E+02 | 6.52E+02 | 0.00E+00 |
| RF | RF-TT0821 | 406.61 | 4.35E+03 | 0.00E+00 | 0.00E+00 | 9.61E+02 | 1.27E+03 | 7.33E+03 | 0.00E+00 |
| RF | RF-TT0823 | 159.51 | 6.69E+02 | 0.00E+00 | 0.00E+00 | 5.76E+01 | 7.43E+01 | 4.29E+02 | 0.00E+00 |
| RF | RF-TT0824 | 140.24 | 1.50E+03 | 0.00E+00 | 0.00E+00 | 5.01E+02 | 6.26E+02 | 3.59E+03 | 0.00E+00 |
| RF | RF-TT0825 | 550.34 | 5.91E+03 | 0.00E+00 | 0.00E+00 | 1.33E+03 | 1.72E+03 | 9.97E+03 | 0.00E+00 |
| RL | RL-T101 | 567.94 | 0.00E+00 | 0.00E+00 | 2.02E+01 | 7.02E+02 | 1.64E+02 | 1.01E+03 | 3.30E-10 |
| RL | RL-T102 | 200.12 | 0.00E+00 | 0.00E+00 | 2.57E-04 | 8.96E-03 | 2.09E-03 | 1.28E-02 | 1.90E-06 |
| RL | RL-T103 | 99.63 | 0.00E+00 | 0.00E+00 | 1.08E+02 | 3.75E+03 | 8.75E+02 | 5.36E+03 | 0.00E+00 |
| RL | RL-T104 | 4.99 | 0.00E+00 | 0.00E+00 | 3.67E-04 | 1.28E-02 | 2.99E-03 | 1.83E-02 | 5.39E-08 |
| RL | RL-T105 | 80.40 | 7.03E-02 | 0.00E+00 | 1.39E-01 | 4.85E+00 | 1.13E+00 | 6.92E+00 | 7.40E-05 |
| RL | RL-T106 | 8.11 | 0.00E+00 | 0.00E+00 | 1.36E-01 | 4.74E+00 | 1.11E+00 | 6.78E+00 | 0.00E+00 |
| RL | RL-T107 | 6156.09 | 2.03E+01 | 0.00E+00 | 8.00E+04 | 1.31E+04 | 3.05E+03 | 1.86E+04 | 1.39E+00 |
| RL | RL-T108 | 192.62 | 0.00E+00 | 0.00E+00 | 1.38E+01 | 7.45E+00 | 1.74E+00 | 1.06E+01 | 4.84E-05 |
| RL | RL-T109 | 19.72 | 3.76E-01 | 0.00E+00 | 2.84E-01 | 9.88E+00 | 2.31E+00 | 1.41E+01 | 3.85E-02 |
| RL | RL-T110 | 494.03 | 1.42E+01 | 0.00E+00 | 5.42E+01 | 1.13E+03 | 2.65E+02 | 1.62E+03 | 2.25E+00 |
| RL | RL-T112 | 137.74 | 3.12E+02 | 0.00E+00 | 2.29E+01 | 1.50E+02 | 3.50E+01 | 2.15E+02 | 1.22E+00 |
| RL | RL-T113 | 42.80 | 0.00E+00 | 0.00E+00 | 4.42E-02 | 4.95E-01 | 1.16E-01 | 7.08E-01 | 0.00E+00 |
| RL | RL-T114 | 19.58 | 0.00E+00 | 0.00E+00 | 2.16E+00 | 7.51E+01 | 1.75E+01 | 1.07E+02 | 0.00E+00 |
| RL | RL-T115 | 1025.43 | 0.00E+00 | 0.00E+00 | 8.67E+00 | 3.04E+02 | 7.08E+01 | 4.34E+02 | 6.83E-01 |
| RL | RL-T116 | 11.02 | 0.00E+00 | 0.00E+00 | 3.55E+00 | 1.23E+02 | 2.88E+01 | 1.77E+02 | 9.29E-02 |
| RL | RL-T118 | 261.96 | 1.95E+02 | 0.00E+00 | 2.83E+01 | 1.22E+02 | 2.85E+01 | 1.75E+02 | 1.38E+00 |
| RL | RL-T120 | 133.81 | 0.00E+00 | 0.00E+00 | 6.54E-01 | 2.28E+01 | 5.32E+00 | 3.25E+01 | 9.33E-07 |
| RL | RL-T122 | 29.30 | 0.00E+00 | 0.00E+00 | 1.26E-01 | 4.35E+00 | 1.02E+00 | 6.23E+00 | 2.41E+00 |
| RL | RL-T123 | 0.62 | 0.00E+00 | 0.00E+00 | 3.68E-01 | 1.28E+01 | 3.00E+00 | 1.84E+01 | 9.86E-02 |
| RL | RL-T125 | 15.18 | 0.00E+00 | 0.00E+00 | 7.60E-06 | 2.64E-04 | 6.17E-05 | 3.81E-04 | 0.00E+00 |
| RL | RL-T127 | 283.60 | 1.66E+03 | 0.00E+00 | 2.29E+01 | 7.99E+02 | 1.86E+02 | 1.14E+03 | 1.32E-01 |
| RL | RL-T128 | 0.42 | 3.64E+00 | 0.00E+00 | 5.57E-07 | 1.94E-05 | 4.52E-06 | 2.77E-05 | 0.00E+00 |
| RL | RL-T129 | 28.75 | 0.00E+00 | 0.00E+00 | 1.06E+02 | 1.10E+01 | 2.55E+00 | 1.56E+01 | 1.27E-02 |
| RL | RL-T130 | 0.21 | 0.00E+00 | 0.00E+00 | 6.69E-04 | 2.34E-02 | 5.45E-03 | 3.33E-02 | 1.37E-04 |
| RL | RL-T131 | 30.16 | 5.20E+01 | 0.00E+00 | 6.54E-01 | 2.28E+01 | 5.30E+00 | 3.25E+01 | 1.36E-02 |
| RL | RL-T132 | 28.70 | 0.00E+00 | 0.00E+00 | 6.45E+01 | 2.25E+03 | 5.26E+02 | 3.21E+03 | 4.05E-01 |
| RL | RL-T133 | 0.21 | 0.00E+00 | 0.00E+00 | 5.41E-02 | 1.89E+00 | 4.40E-01 | 2.69E+00 | 0.00E+00 |
| RL | RL-T134 | 0.21 | 0.00E+00 | 0.00E+00 | 2.79E-03 | 9.72E-02 | 2.26E-02 | 1.39E-01 | 0.00E+00 |

TABLE - 1
SCALED VOLUME AND ACTIVITIES FOR SELECTED RADIONUCLIDES FOR EACH WASTE STREAM

| SITE | Waste Stream ID# | Scaled Volume (m3) | SCALED TOTAL CURIES OF EACH RADIONUCLIDE FOR EACH WASTE STREAM | | | | | | |
|------|------------------|--------------------|--|---------------|---------------|---------------|---------------|---------------|--------------|
| | | | Scaled Am-241 | Scaled Cm-244 | Scaled Pu-238 | Scaled Pu-239 | Scaled Pu-240 | Scaled Pu-241 | Scaled U-234 |
| RL | RL-T135 | 0.42 | 0.00E+00 | 0.00E+00 | 1.30E-02 | 4.54E-01 | 1.06E-01 | 6.48E-01 | 6.86E-03 |
| RL | RL-T137 | 151.63 | 1.03E+03 | 0.00E+00 | 1.64E+01 | 5.71E+02 | 1.33E+02 | 8.15E+02 | 1.03E-02 |
| RL | RL-T140 | 138.11 | 5.19E+02 | 0.00E+00 | 3.93E+00 | 1.36E+02 | 3.19E+01 | 1.95E+02 | 4.34E+01 |
| RL | RL-T143 | 403.71 | 0.00E+00 | 0.00E+00 | 1.56E+00 | 5.41E+01 | 1.26E+01 | 7.75E+01 | 6.37E-02 |
| RL | RL-T145 | 711.19 | 0.00E+00 | 0.00E+00 | 4.42E+00 | 1.54E+02 | 3.59E+01 | 2.20E+02 | 1.48E-01 |
| RL | RL-W277 | 0.60 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| RL | RL-W278 | 0.42 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| RL | RL-W279 | 6.93 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.00E+00 | 6.95E-01 | 4.26E+00 | 0.00E+00 |
| RL | RL-W280 | 0.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.02E-02 | 2.09E-02 | 1.28E-01 | 0.00E+00 |
| RL | RL-W281 | 0.37 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| RL | RL-W282 | 0.33 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| RL | RL-W283 | 11.65 | 1.46E+02 | 0.00E+00 | 0.00E+00 | 9.35E-02 | 0.00E+00 | 1.77E-01 | 0.00E+00 |
| RL | RL-W284 | 0.42 | 5.23E+00 | 0.00E+00 | 0.00E+00 | 3.34E-03 | 0.00E+00 | 6.32E-03 | 0.00E+00 |
| RL | RL-W285 | 1.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.27E+01 | 2.99E+00 | 1.90E+01 | 0.00E+00 |
| RL | RL-W286 | 0.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.02E-02 | 2.09E-02 | 1.28E-01 | 0.00E+00 |
| RL | RL-W287 | 0.42 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.38E+00 | 1.03E+00 | 6.54E+00 | 0.00E+00 |
| RL | RL-W288 | 1.04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.10E+01 | 2.58E+00 | 1.63E+01 | 0.00E+00 |
| RL | RL-W289 | 2.08 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.19E+01 | 5.15E+00 | 3.27E+01 | 0.00E+00 |
| RL | RL-W290 | 2.29 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.41E+01 | 5.67E+00 | 3.59E+01 | 0.00E+00 |
| RL | RL-W291 | 7.98 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.40E+01 | 1.97E+01 | 1.25E+02 | 0.00E+00 |
| RL | RL-W292 | 0.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.19E+00 | 5.15E-01 | 3.27E+00 | 0.00E+00 |
| RL | RL-W293 | 1.25 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.31E+01 | 3.09E+00 | 1.96E+01 | 0.00E+00 |
| RL | RL-W294 | 1.04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.10E+01 | 2.58E+00 | 1.63E+01 | 0.00E+00 |
| RL | RL-W295 | 1.87 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.97E+01 | 4.64E+00 | 2.94E+01 | 0.00E+00 |
| RL | RL-W296 | 3.16 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.33E+01 | 7.83E+00 | 4.97E+01 | 0.00E+00 |
| RL | RL-W297 | 1.66 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.75E+01 | 4.12E+00 | 2.61E+01 | 0.00E+00 |
| RL | RL-W298 | 19.34 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.83E+02 | 4.50E+01 | 2.88E+02 | 0.00E+00 |
| RL | RL-W299 | 0.62 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.15E+00 | 1.91E+00 | 1.16E+01 | 0.00E+00 |
| RL | RI-W300 | 0.42 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.43E+00 | 1.27E+00 | 7.76E+00 | 0.00E+00 |
| RL | RI-W301 | 0.62 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.42E+01 | 3.31E+00 | 2.03E+01 | 0.00E+00 |
| RL | RI-W302 | 0.42 | 3.89E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| RI | RI-W303 | 0.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.24E+00 | 1.98E-01 | 0.00E+00 | 0.00E+00 |
| RI | RI-W304 | 2.51 | 1.41E+00 | 0.00E+00 | 0.00E+00 | 5.65E-01 | 1.26E-01 | 8.60E-01 | 0.00E+00 |
| RI | RI-W305 | 57.01 | 1.44E+01 | 0.00E+00 | 0.00E+00 | 2.76E+01 | 1.17E+01 | 8.75E+01 | 0.00E+00 |
| RL | RI-W306 | 15.94 | 4.07E+00 | 0.00E+00 | 0.00E+00 | 7.98E+00 | 3.32E+00 | 2.47E+01 | 0.00E+00 |
| RI | RI-W307 | 1.89 | 7.69E-01 | 0.00E+00 | 0.00E+00 | 2.82E+00 | 6.64E-01 | 4.49E+00 | 0.00E+00 |
| RI | RI-W308 | 1.79 | 5.09E-01 | 0.00E+00 | 0.00E+00 | 1.23E+00 | 4.21E-01 | 3.05E+00 | 0.00E+00 |
| RL | RI-W309 | 0.21 | 8.46E-02 | 0.00E+00 | 0.00E+00 | 3.11E-01 | 7.31E-02 | 4.95E-01 | 0.00E+00 |
| RL | RI-W310 | 1.66 | 4.58E-01 | 0.00E+00 | 0.00E+00 | 1.05E+00 | 3.77E-01 | 2.76E+00 | 0.00E+00 |
| RL | RI-W311 | 90.93 | 2.32E+01 | 0.00E+00 | 0.00E+00 | 4.52E+01 | 1.89E+01 | 1.41E+02 | 0.00E+00 |

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TABLE - 1
SCALED VOLUME AND ACTIVITIES FOR SELECTED RADIONUCLIDES FOR EACH WASTE STREAM

| SITE | Waste Stream ID# | Scaled Volume (m3) | SCALED TOTAL CURIES OF EACH RADIONUCLIDE FOR EACH WASTE STREAM | | | | | | |
|------|------------------|--------------------|--|---------------|---------------|---------------|---------------|---------------|--------------|
| | | | Scaled Am-241 | Scaled Cm-244 | Scaled Pu-238 | Scaled Pu-239 | Scaled Pu-240 | Scaled Pu-241 | Scaled U-234 |
| RL | RL-W312 | 58.59 | 1.48E+01 | 0.00E+00 | 0.00E+00 | 2.85E+01 | 1.21E+01 | 9.01E+01 | 0.00E+00 |
| RL | RL-W313 | 114.07 | 2.97E+01 | 0.00E+00 | 0.00E+00 | 6.05E+01 | 2.42E+01 | 1.80E+02 | 0.00E+00 |
| RL | RL-W314 | 117.18 | 2.97E+01 | 0.00E+00 | 0.00E+00 | 5.70E+01 | 2.41E+01 | 1.80E+02 | 0.00E+00 |
| RL | RL-W315 | 3.16 | 8.48E-01 | 0.00E+00 | 0.00E+00 | 1.85E+00 | 6.96E-01 | 5.12E+00 | 0.00E+00 |
| RL | RL-W316 | 0.21 | 8.46E-02 | 0.00E+00 | 0.00E+00 | 3.11E-01 | 7.31E-02 | 4.95E-01 | 0.00E+00 |
| RL | RL-W317 | 16.15 | 4.16E+00 | 0.00E+00 | 0.00E+00 | 8.29E+00 | 3.39E+00 | 2.52E+01 | 0.00E+00 |
| RL | RL-W318 | 56.60 | 1.43E+01 | 0.00E+00 | 0.00E+00 | 2.70E+01 | 1.16E+01 | 8.65E+01 | 0.00E+00 |
| RL | RL-W319 | 7.56 | 3.08E+00 | 0.00E+00 | 0.00E+00 | 1.13E+01 | 2.66E+00 | 1.80E+01 | 0.00E+00 |
| RL | RL-W320 | 56.60 | 1.43E+01 | 0.00E+00 | 0.00E+00 | 2.70E+01 | 1.16E+01 | 8.65E+01 | 0.00E+00 |
| RL | RL-W321 | 0.21 | 8.46E-02 | 0.00E+00 | 0.00E+00 | 3.11E-01 | 7.31E-02 | 4.95E-01 | 0.00E+00 |
| RL | RL-W322 | 15.94 | 4.07E+00 | 0.00E+00 | 0.00E+00 | 7.98E+00 | 3.32E+00 | 2.47E+01 | 0.00E+00 |
| RL | RL-W323 | 14.36 | 3.65E+00 | 0.00E+00 | 0.00E+00 | 7.05E+00 | 2.97E+00 | 2.21E+01 | 0.00E+00 |
| RL | RL-W324 | 3.78 | 1.54E+00 | 0.00E+00 | 0.00E+00 | 5.64E+00 | 1.33E+00 | 8.99E+00 | 0.00E+00 |
| RL | RL-W325 | 8.66 | 2.21E+00 | 0.00E+00 | 0.00E+00 | 4.30E+00 | 1.80E+00 | 1.34E+01 | 0.00E+00 |
| RL | RL-W326 | 56.80 | 1.43E+01 | 0.00E+00 | 0.00E+00 | 2.73E+01 | 1.17E+01 | 8.70E+01 | 0.00E+00 |
| RL | RL-W327 | 789.89 | 2.06E+02 | 0.00E+00 | 0.00E+00 | 4.21E+02 | 1.68E+02 | 1.25E+03 | 0.00E+00 |
| RL | RL-W328 | 3.78 | 1.54E+00 | 0.00E+00 | 0.00E+00 | 5.64E+00 | 1.33E+00 | 8.99E+00 | 0.00E+00 |
| RL | RL-W329 | 57.01 | 1.44E+01 | 0.00E+00 | 0.00E+00 | 2.76E+01 | 1.17E+01 | 8.75E+01 | 0.00E+00 |
| RL | RL-W330 | 281.70 | 7.47E+01 | 0.00E+00 | 0.00E+00 | 1.59E+02 | 6.12E+01 | 4.52E+02 | 0.00E+00 |
| RL | RL-W331 | 721.16 | 1.86E+02 | 0.00E+00 | 0.00E+00 | 3.75E+02 | 1.52E+02 | 1.13E+03 | 0.00E+00 |
| RL | RL-W332 | 0.20 | 8.14E-02 | 0.00E+00 | 0.00E+00 | 2.99E-01 | 7.03E-02 | 4.76E-01 | 0.00E+00 |
| RL | RL-W333 | 17.73 | 4.58E+00 | 0.00E+00 | 0.00E+00 | 9.21E+00 | 3.74E+00 | 2.77E+01 | 0.00E+00 |
| RL | RL-W334 | 0.21 | 8.46E-02 | 0.00E+00 | 0.00E+00 | 3.11E-01 | 7.31E-02 | 4.95E-01 | 0.00E+00 |
| RL | RL-W335 | 2.10 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.18E-01 | 1.75E-02 | 0.00E+00 | 0.00E+00 |
| RL | RL-W336 | 0.42 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| RL | RL-W338 | 0.21 | 9.52E-02 | 0.00E+00 | 0.00E+00 | 3.34E-03 | 1.74E-03 | 1.50E-02 | 0.00E+00 |
| RL | RL-W339 | 0.42 | 1.90E-01 | 0.00E+00 | 0.00E+00 | 6.68E-03 | 3.48E-03 | 3.00E-02 | 0.00E+00 |
| RL | RL-W340 | 0.21 | 9.52E-02 | 0.00E+00 | 0.00E+00 | 3.34E-03 | 1.74E-03 | 1.50E-02 | 0.00E+00 |
| RL | RL-W341 | 0.21 | 8.46E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.98E-03 | 0.00E+00 |
| RL | RL-W342 | 0.83 | 3.39E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.90E-03 | 0.00E+00 |
| RL | RL-W343 | 0.62 | 2.54E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.93E-03 | 0.00E+00 |
| RL | RL-W344 | 0.21 | 6.35E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.98E-03 | 0.00E+00 |
| RL | RL-W345 | 8.95 | 2.54E+00 | 0.00E+00 | 0.00E+00 | 6.17E+00 | 2.10E+00 | 1.53E+01 | 0.00E+00 |
| RL | RL-W346 | 0.42 | 1.61E+00 | 0.00E+00 | 0.00E+00 | 2.04E-01 | 5.57E-02 | 1.84E-01 | 0.00E+00 |
| RL | RL-W347 | 0.21 | 8.04E-01 | 0.00E+00 | 0.00E+00 | 1.02E-01 | 2.78E-02 | 9.21E-02 | 0.00E+00 |
| RL | RL-W348 | 0.21 | 8.04E-01 | 0.00E+00 | 0.00E+00 | 1.02E-01 | 2.78E-02 | 9.21E-02 | 0.00E+00 |
| RL | RL-W349 | 0.21 | 8.04E-01 | 0.00E+00 | 0.00E+00 | 1.02E-01 | 2.78E-02 | 9.21E-02 | 0.00E+00 |
| RL | RL-W350 | 0.21 | 8.04E-01 | 0.00E+00 | 0.00E+00 | 1.02E-01 | 2.78E-02 | 9.21E-02 | 0.00E+00 |
| RL | RL-W351 | 0.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| RL | RL-W352 | 0.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

TABLE - 1
SCALED VOLUME AND ACTIVITIES FOR SELECTED RADIONUCLIDES FOR EACH WASTE STREAM

| SITE | Waste | Scaled | SCALED TOTAL CURIES OF EACH RADIONUCLIDE FOR EACH WASTE STREAM | | | | | | |
|------|------------|-------------|--|---------------|---------------|---------------|---------------|---------------|--------------|
| | Stream ID# | Volume (m3) | Scaled Am-241 | Scaled Cm-244 | Scaled Pu-238 | Scaled Pu-239 | Scaled Pu-240 | Scaled Pu-241 | Scaled U-234 |
| RL | RL-W353 | 0.83 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.22E+00 | 7.52E-01 | 4.60E+00 | 0.00E+00 |
| RL | RL-W354 | 0.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.05E-01 | 1.88E-01 | 1.15E+00 | 0.00E+00 |
| RL | RL-W355 | 2.08 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.05E+00 | 1.88E+00 | 1.15E+01 | 0.00E+00 |
| RL | RL-W356 | 1.25 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.83E+00 | 1.13E+00 | 6.90E+00 | 0.00E+00 |
| RL | RL-W357 | 0.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| RL | RL-W358 | 2.50 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.81E-01 | 1.25E-01 | 8.25E-01 | 0.00E+00 |
| RL | RL-W359 | 16.64 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.87E+00 | 8.35E-01 | 5.50E+00 | 0.00E+00 |
| RL | RL-W360 | 4.78 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.11E+00 | 2.40E-01 | 1.58E+00 | 0.00E+00 |
| RL | RL-W361 | 0.62 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.45E-01 | 3.13E-02 | 2.06E-01 | 0.00E+00 |
| RL | RL-W362 | 16.64 | 5.72E-01 | 0.00E+00 | 0.00E+00 | 3.21E+01 | 1.19E+01 | 8.92E+01 | 0.00E+00 |
| RL | RL-W363 | 1.58 | 5.30E-02 | 0.00E+00 | 0.00E+00 | 2.83E+00 | 1.09E+00 | 8.28E+00 | 0.00E+00 |
| RL | RL-W364 | 11.69 | 4.03E-01 | 0.00E+00 | 0.00E+00 | 2.27E+01 | 8.34E+00 | 6.28E+01 | 0.00E+00 |
| RL | RL-W365 | 64.04 | 2.22E+00 | 0.00E+00 | 0.00E+00 | 1.26E+02 | 4.59E+01 | 3.45E+02 | 0.00E+00 |
| RL | RL-W366 | 6.95 | 2.44E-01 | 0.00E+00 | 0.00E+00 | 1.42E+01 | 5.06E+00 | 3.79E+01 | 0.00E+00 |
| RL | RL-W367 | 16.64 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.28E+00 | 1.53E+00 | 1.01E+01 | 0.00E+00 |
| RL | RL-W368 | 4.74 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.13E+00 | 4.22E-01 | 2.81E+00 | 0.00E+00 |
| RL | RL-W369 | 161.21 | 6.78E+01 | 0.00E+00 | 0.00E+00 | 2.28E+02 | 8.09E+01 | 5.40E+02 | 0.00E+00 |
| RL | RL-W370 | 0.42 | 2.54E-01 | 0.00E+00 | 0.00E+00 | 1.32E+00 | 3.17E-01 | 1.97E+00 | 0.00E+00 |
| RL | RL-W371 | 21.17 | 9.30E+00 | 0.00E+00 | 0.00E+00 | 3.36E+01 | 1.12E+01 | 7.39E+01 | 0.00E+00 |
| RL | RL-W372 | 0.42 | 2.54E-01 | 0.00E+00 | 0.00E+00 | 1.32E+00 | 3.17E-01 | 1.97E+00 | 0.00E+00 |
| RL | RL-W373 | 88.45 | 4.33E+00 | 0.00E+00 | 0.00E+00 | 4.65E+00 | 1.42E+00 | 7.79E+00 | 0.00E+00 |
| RL | RL-W374 | 2800.78 | 8.11E+02 | 0.00E+00 | 0.00E+00 | 2.61E+03 | 1.06E+03 | 7.37E+03 | 0.00E+00 |
| RL | RL-W375 | 272.44 | 7.96E+01 | 0.00E+00 | 0.00E+00 | 2.61E+02 | 1.05E+02 | 7.22E+02 | 0.00E+00 |
| RL | RL-W376 | 367.78 | 1.05E+02 | 0.00E+00 | 0.00E+00 | 3.28E+02 | 1.38E+02 | 9.56E+02 | 0.00E+00 |
| RL | RL-W377 | 7029.61 | 2.01E+03 | 0.00E+00 | 0.00E+00 | 6.26E+03 | 2.63E+03 | 1.83E+04 | 0.00E+00 |
| RL | RL-W378 | 306.06 | 8.81E+01 | 0.00E+00 | 0.00E+00 | 2.79E+02 | 1.15E+02 | 8.00E+02 | 0.00E+00 |
| RL | RL-W379 | 0.21 | 9.52E-02 | 0.00E+00 | 0.00E+00 | 5.63E-01 | 1.32E-01 | 8.34E-01 | 0.00E+00 |
| RL | RL-W380 | 0.21 | 9.52E-02 | 0.00E+00 | 0.00E+00 | 5.63E-01 | 1.32E-01 | 8.34E-01 | 0.00E+00 |
| RL | RL-W381 | 162.79 | 4.64E+01 | 0.00E+00 | 0.00E+00 | 1.43E+02 | 6.07E+01 | 4.22E+02 | 0.00E+00 |
| RL | RL-W382 | 423.84 | 1.21E+02 | 0.00E+00 | 0.00E+00 | 3.78E+02 | 1.59E+02 | 1.10E+03 | 0.00E+00 |
| RL | RL-W383 | 9.45 | 4.33E+00 | 0.00E+00 | 0.00E+00 | 2.56E+01 | 6.01E+00 | 3.79E+01 | 0.00E+00 |
| RL | RL-W384 | 0.62 | 1.81E+00 | 0.00E+00 | 0.00E+00 | 4.61E-01 | 1.15E-01 | 6.38E-01 | 0.00E+00 |
| RL | RL-W385 | 12.23 | 1.35E+01 | 0.00E+00 | 0.00E+00 | 2.67E+01 | 7.87E+00 | 4.48E+01 | 0.00E+00 |
| RL | RL-W386 | 0.42 | 5.29E-01 | 0.00E+00 | 0.00E+00 | 1.19E+00 | 3.13E-01 | 1.74E+00 | 0.00E+00 |
| RL | RL-W387 | 2.83 | 2.91E+00 | 0.00E+00 | 0.00E+00 | 5.33E+00 | 1.69E+00 | 9.73E+00 | 0.00E+00 |
| RL | RL-W388 | 20.85 | 2.45E+01 | 0.00E+00 | 0.00E+00 | 5.13E+01 | 1.44E+01 | 8.09E+01 | 0.00E+00 |
| RL | RL-W389 | 0.21 | 2.64E-01 | 0.00E+00 | 0.00E+00 | 5.94E-01 | 1.57E-01 | 8.70E-01 | 0.00E+00 |
| RL | RL-W390 | 0.62 | 7.93E-01 | 0.00E+00 | 0.00E+00 | 1.78E+00 | 4.70E-01 | 2.61E+00 | 0.00E+00 |
| RL | RL-W391 | 0.42 | 5.29E-01 | 0.00E+00 | 0.00E+00 | 1.19E+00 | 3.13E-01 | 1.74E+00 | 0.00E+00 |
| RL | RL-W392 | 0.21 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.01E-03 | 1.74E-03 | 8.30E-03 | 0.00E+00 |

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TABLE - 1
SCALED VOLUME AND ACTIVITIES FOR SELECTED RADIONUCLIDES FOR EACH WASTE STREAM

| SITE | Waste Stream ID# | Scaled Volume (m3) | SCALED TOTAL CURIES OF EACH RADIONUCLIDE FOR EACH WASTE STREAM | | | | | | |
|------|------------------|--------------------|--|---------------|---------------|---------------|---------------|---------------|--------------|
| | | | Scaled Am-241 | Scaled Cm-244 | Scaled Pu-238 | Scaled Pu-239 | Scaled Pu-240 | Scaled Pu-241 | Scaled U-234 |
| RL | RL-W393 | 67.21 | 4.13E+02 | 0.00E+00 | 0.00E+00 | 3.98E+01 | 2.55E+01 | 1.83E+02 | 0.00E+00 |
| RL | RL-W394 | 49.81 | 3.03E+02 | 0.00E+00 | 0.00E+00 | 2.85E+01 | 1.86E+01 | 1.34E+02 | 0.00E+00 |
| RL | RL-W395 | 174.45 | 1.11E+03 | 0.00E+00 | 0.00E+00 | 1.14E+02 | 6.87E+01 | 4.89E+02 | 0.00E+00 |
| RL | RL-W396 | 0.21 | 2.00E+00 | 0.00E+00 | 0.00E+00 | 3.47E-01 | 1.30E-01 | 8.55E-01 | 0.00E+00 |
| RL | RL-W397 | 55.72 | 3.39E+02 | 0.00E+00 | 0.00E+00 | 3.19E+01 | 2.09E+01 | 1.50E+02 | 0.00E+00 |
| RL | RL-W398 | 0.21 | 2.00E+00 | 0.00E+00 | 0.00E+00 | 3.47E-01 | 1.30E-01 | 8.55E-01 | 0.00E+00 |
| RL | RL-W399 | 23.55 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.16E+01 | 8.94E+01 | 1.42E+03 | 0.00E+00 |
| RL | RL-W400 | 15.31 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.02E+01 | 5.83E+01 | 9.28E+02 | 0.00E+00 |
| RL | RL-W401 | 214.86 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.24E+02 | 8.12E+02 | 1.29E+04 | 0.00E+00 |
| RL | RL-W402 | 14.98 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.08E+01 | 1.62E+01 | 1.08E+02 | 0.00E+00 |
| RL | RL-W403 | 0.62 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.76E+00 | 1.11E+00 | 6.79E+00 | 0.00E+00 |
| RL | RL-W404 | 15.81 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.71E+01 | 1.76E+01 | 1.17E+02 | 0.00E+00 |
| RL | RL-W405 | 0.21 | 9.10E+00 | 0.00E+00 | 0.00E+00 | 9.02E-02 | 2.09E-02 | 1.29E-01 | 0.00E+00 |
| RL | RL-W406 | 0.42 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.01E-02 | 1.74E-02 | 9.80E-02 | 0.00E+00 |
| SR | T001-221F-HET | 11492.34 | 9.51E+03 | 0.00E+00 | 7.17E+05 | 2.78E+04 | 5.56E+03 | 1.66E+05 | 0.00E+00 |
| SR | T001-221F-MET | 490.50 | 3.98E+02 | 0.00E+00 | 2.99E+04 | 1.11E+03 | 2.32E+02 | 6.95E+03 | 0.00E+00 |
| SR | T001-221F-VIT | 954.27 | 4.95E+02 | 4.68E+03 | 3.71E+04 | 1.33E+02 | 2.88E+02 | 8.66E+03 | 0.00E+00 |
| SR | T001-221H-HET | 6572.31 | 5.25E+03 | 0.00E+00 | 3.93E+05 | 1.41E+04 | 3.05E+03 | 9.18E+04 | 0.00E+00 |
| SR | T001-221H-MET | 95.38 | 7.54E+01 | 0.00E+00 | 5.64E+03 | 1.97E+02 | 4.38E+01 | 1.32E+03 | 0.00E+00 |
| SR | T001-221H-VIT | 3192.47 | 1.64E+03 | 1.57E+04 | 1.23E+05 | 4.33E+02 | 9.53E+02 | 2.87E+04 | 0.00E+00 |
| SR | T001-235F-HET | 1517.71 | 1.28E+03 | 0.00E+00 | 9.65E+04 | 3.85E+03 | 7.48E+02 | 2.22E+04 | 0.00E+00 |
| SR | T001-235F-VIT | 566.20 | 2.90E+02 | 2.79E+03 | 2.17E+04 | 7.54E+01 | 1.68E+02 | 5.07E+03 | 0.00E+00 |
| SR | T001-772F-HET | 104.88 | 9.72E+01 | 0.00E+00 | 7.46E+03 | 3.51E+02 | 5.78E+01 | 1.68E+03 | 0.00E+00 |
| SR | T001-772F-VIT | 50.24 | 2.57E+01 | 2.47E+02 | 1.92E+03 | 6.71E+00 | 1.49E+01 | 4.51E+02 | 0.00E+00 |
| SR | T001-773A-CLAS | 4.58 | 5.92E+00 | 0.00E+00 | 4.73E+02 | 3.11E+01 | 3.66E+00 | 9.97E+01 | 0.00E+00 |
| SR | T001-773A-HET | 1721.93 | 1.36E+03 | 0.00E+00 | 1.02E+05 | 3.60E+03 | 7.93E+02 | 2.39E+04 | 0.00E+00 |
| SR | T001-773A-MET | 210.01 | 1.65E+02 | 0.00E+00 | 1.24E+04 | 4.28E+02 | 9.59E+01 | 2.90E+03 | 0.00E+00 |
| SR | T001-773A-VIT | 100.37 | 5.14E+01 | 4.94E+02 | 3.84E+03 | 1.34E+01 | 2.98E+01 | 9.00E+02 | 0.00E+00 |
| SR | T003-773A-HET | 45.94 | 0.00E+00 | 0.00E+00 | 5.98E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| SR | T003-773A-VIT | 0.21 | 1.75E-01 | 7.85E-01 | 1.40E+01 | 9.22E-02 | 1.08E-01 | 2.94E+00 | 0.00E+00 |
| SR | W006-773A-VIT | 0.52 | 1.09E-02 | 0.00E+00 | 0.00E+00 | 2.36E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| SR | W027-221F-HET | 265.62 | 3.44E+02 | 0.00E+00 | 2.75E+04 | 1.80E+03 | 2.13E+02 | 5.79E+03 | 0.00E+00 |
| SR | W027-221F-MET | 1.89 | 2.45E+00 | 0.00E+00 | 1.95E+02 | 1.28E+01 | 1.51E+00 | 4.12E+01 | 0.00E+00 |
| SR | W027-221F-VIT | 33.18 | 2.79E+01 | 1.25E+02 | 2.23E+03 | 1.47E+01 | 1.73E+01 | 4.70E+02 | 0.00E+00 |
| SR | W027-221H-HET | 125.42 | 1.62E+02 | 0.00E+00 | 1.30E+04 | 8.52E+02 | 1.00E+02 | 2.73E+03 | 0.00E+00 |
| SR | W027-221H-MET | 1.89 | 2.45E+00 | 0.00E+00 | 1.95E+02 | 1.28E+01 | 1.51E+00 | 4.12E+01 | 0.00E+00 |
| SR | W027-221H-VIT | 25.88 | 2.18E+01 | 9.77E+01 | 1.74E+03 | 1.15E+01 | 1.35E+01 | 3.66E+02 | 0.00E+00 |
| SR | W027-235F-HET | 34.74 | 4.50E+01 | 0.00E+00 | 3.39E+03 | 2.36E+02 | 2.78E+01 | 7.57E+02 | 0.00E+00 |
| SR | W027-235F-MET | 1.89 | 2.45E+00 | 0.00E+00 | 1.95E+02 | 1.28E+01 | 1.51E+00 | 4.12E+01 | 0.00E+00 |
| SR | W027-235F-VIT | 16.59 | 1.39E+01 | 6.26E+01 | 1.11E+03 | 7.35E+00 | 8.63E+00 | 2.35E+02 | 0.00E+00 |

TABLE - 1
SCALED VOLUME AND ACTIVITIES FOR SELECTED RADIONUCLIDES FOR EACH WASTE STREAM

| SITE | Waste Stream ID# | Scaled Volume (m3) | SCALED TOTAL CURIES OF EACH RADIONUCLIDE FOR EACH WASTE STREAM | | | | | | |
|---------------|------------------|--------------------|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | | Scaled Am-241 | Scaled Cm-244 | Scaled Pu-238 | Scaled Pu-239 | Scaled Pu-240 | Scaled Pu-241 | Scaled U-234 |
| SR | W027-772F-HET | 515.42 | 6.67E+02 | 0.00E+00 | 5.33E+04 | 3.50E+01 | 4.12E+02 | 1.12E+04 | 0.00E+00 |
| SR | W027-772F-MET | 32.13 | 4.16E+01 | 0.00E+00 | 3.32E+03 | 2.18E+02 | 2.57E+01 | 7.00E+02 | 0.00E+00 |
| SR | W027-772F-VIT | 10.62 | 8.93E+00 | 4.01E+01 | 7.13E+02 | 4.70E+00 | 5.52E+00 | 1.50E+02 | 0.00E+00 |
| SR | W027-773A-HET | 331.14 | 4.29E+02 | 0.00E+00 | 3.42E+04 | 2.25E+03 | 2.65E+02 | 7.22E+03 | 0.00E+00 |
| SR | W027-773A-MET | 7.56 | 9.78E+00 | 0.00E+00 | 7.81E+02 | 5.13E+01 | 6.05E+00 | 1.65E+02 | 0.00E+00 |
| SR | W027-773A-VIT | 17.25 | 1.45E+01 | 6.51E+01 | 1.16E+03 | 7.64E+00 | 8.97E+00 | 2.44E+02 | 0.00E+00 |
| SR-OFF | W027-999-HET | 27.66 | 6.85E+01 | 0.00E+00 | 1.15E+05 | 7.87E+01 | 4.56E+01 | 9.88E+02 | 0.00E+00 |
| SR-OFF | W027-999-VIT | 31.85 | 5.12E+01 | 0.00E+00 | 8.61E+04 | 5.91E+00 | 3.41E+01 | 7.38E+02 | 0.00E+00 |
| SR-OFF | W053-773A-VIT | 0.52 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.36E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| TOTALS | | 168500.00 | 4.42E+05 | 3.15E+04 | 2.61E+06 | 7.85E+05 | 2.10E+05 | 2.31E+06 | 4.65E+02 |

Table 2
NORMALIZATION FACTORS (NF)

TOTAL CURIES ESTIMATED FROM BIR REV. 2 WASTE STREAM DATA

| UNDECAYED STORED CURIES OF EACH RADIONUCLIDE | | | | | | | |
|---|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| SITE | Am241 | Cm244 | Pu238 | Pu239 | Pu240 | Pu241 | U234 |
| AE Total | 3.90E+01 | 0.00E+00 | 7.45E-05 | 2.14E+01 | 0.00E+00 | 1.12E+01 | 0.00E+00 |
| AL Total | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| AW Total | 6.97E+00 | 0.00E+00 | 0.00E+00 | 5.54E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| BT Total | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| ET Total | 2.52E-02 | 0.00E+00 | 2.02E-02 | 1.34E-01 | 3.36E-02 | 8.40E-01 | 3.36E-04 |
| IN Total | 8.11E+04 | 9.29E-01 | 6.34E+04 | 4.35E+04 | 1.10E+04 | 2.38E+05 | 0.00E+00 |
| LA Total | 3.12E+04 | 2.29E+02 | 1.36E+05 | 1.86E+04 | 4.10E+03 | 6.97E+04 | 1.54E-01 |
| LL Total | 1.43E+02 | 8.06E+01 | 4.18E+01 | 1.71E+02 | 7.96E+01 | 2.44E+03 | 0.00E+00 |
| MC Total | 1.55E-01 | 0.00E+00 | 0.00E+00 | 6.07E-02 | 0.00E+00 | 2.77E-01 | 0.00E+00 |
| MD Total | 0.00E+00 | 0.00E+00 | 2.44E+03 | 3.84E+01 | 5.36E+02 | 0.00E+00 | 0.00E+00 |
| NT Total | 3.01E+02 | 4.16E+00 | 1.49E+02 | 2.81E+03 | 2.61E+01 | 5.25E+02 | 5.00E-03 |
| OR Total | 1.10E+03 | 4.51E+00 | 3.55E+02 | 1.58E+01 | 1.82E+01 | 1.75E+03 | 1.87E+00 |
| RF Total | 6.22E+02 | 0.00E+00 | 0.00E+00 | 1.20E+03 | 2.76E+02 | 9.07E+03 | 0.00E+00 |
| RL Total | 9.30E+02 | 0.00E+00 | 1.03E+05 | 3.27E+04 | 7.35E+03 | 1.99E+05 | 3.25E+01 |
| SA Total | 1.35E+00 | 4.33E+00 | 0.00E+00 | 2.70E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| SR Total | 7.66E+02 | 1.69E+01 | 2.13E+05 | 1.72E+04 | 8.76E+02 | 4.26E+04 | 0.00E+00 |
| SR-OFF | 1.34E+01 | 3.31E+00 | 3.73E+03 | 7.12E+02 | 1.53E+01 | 7.45E+02 | 0.00E+00 |

| TOTAL UNDECAYED CURIES REPORTED BY THE SITE IN THE IDB | | | | | | | |
|---|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| SITE | Am241 | Cm244 | Pu238 | Pu239 | Pu240 | Pu241 | U234 |
| ARCO | 0.00E+00 | 0.00E+00 | 3.73E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| ARMY | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.80E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| ETEC | 4.54E-01 | 0.00E+00 | 1.16E-01 | 1.79E+00 | 6.12E-01 | 8.29E+00 | 0.00E+00 |
| HANF | 3.76E+03 | 4.82E+03 | 9.06E+04 | 2.63E+04 | 6.15E+03 | 7.08E+04 | 5.01E+01 |
| INEL | 8.79E+04 | 1.13E+03 | 6.75E+04 | 4.01E+04 | 9.83E+03 | 2.88E+05 | 3.36E+00 |
| LANL | 8.69E+03 | 2.23E+02 | 1.31E+05 | 7.69E+04 | 1.00E+02 | 1.70E+03 | 0.00E+00 |
| LBL | | | | | | | |
| LLNL | 1.33E+02 | 7.44E+01 | 7.75E+01 | 1.58E+02 | 6.44E+01 | 1.97E+03 | 2.78E-03 |
| MOUND | 0.00E+00 | 0.00E+00 | 1.68E+03 | 2.98E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MURR | 3.24E-01 | 0.00E+00 | 0.00E+00 | 2.46E-02 | 0.00E+00 | 6.63E-03 | 0.00E+00 |
| NEVADA | 2.86E+02 | 3.54E+02 | 2.16E+02 | 2.76E+03 | 1.84E+01 | 3.31E+02 | 5.00E-03 |
| ORNL | 6.19E+02 | 2.26E+03 | 3.98E+03 | 1.01E+03 | 9.44E+02 | 7.84E+04 | 1.55E+01 |
| PAD | | | | | | | |
| PANTEX | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.55E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| RFETS | 1.06E+04 | 0.00E+00 | 3.56E+02 | 9.98E+03 | 7.22E+03 | 6.58E+04 | 0.00E+00 |
| RF-RES | | | | | | | |
| SRS-ON | 2.11E+03 | 1.16E+03 | 3.14E+05 | 9.13E+03 | 2.21E+03 | 1.06E+05 | 3.00E-01 |
| SR-OFF | 1.87E+00 | 0.00E+00 | 2.43E+05 | 1.58E+02 | 7.99E+01 | 5.34E+03 | 3.37E-04 |
| SR-TOTAL | 2.11E+03 | 1.16E+03 | 5.57E+05 | 9.29E+03 | 2.29E+03 | 1.11E+05 | 3.00E-01 |

Table 2 (continued)
NORMALIZATION FACTORS (NF)

CALCULATION OF IDB/BIR RATIOS (NF)

| SITE | Am241 | Cm244 | Pu238 | Pu239 | Pu240 | Pu241 | U234 |
|----------|----------|----------|----------|----------|----------|----------|----------|
| RL | 4.04E+00 | NC | 8.81E-01 | 8.03E-01 | 8.37E-01 | 3.56E-01 | 1.54E+00 |
| IN | 1.08E+00 | 1.22E+03 | 1.06E+00 | 9.22E-01 | 8.97E-01 | 1.21E+00 | NC |
| LA | 2.79E-01 | 9.74E-01 | 9.65E-01 | 4.13E+00 | 2.44E-02 | 2.44E-02 | 0.00E+00 |
| LL | 9.31E-01 | 9.23E-01 | 1.85E+00 | 9.26E-01 | 8.09E-01 | 8.05E-01 | NC |
| MD | NC | NC | 6.90E-01 | 7.77E-01 | 0.00E+00 | NC | NC |
| NT | 9.49E-01 | 8.51E+01 | 1.45E+00 | 9.83E-01 | 7.07E-01 | 6.31E-01 | 1.00E+00 |
| OR | 5.61E-01 | 5.02E+02 | 1.12E+01 | 6.38E+01 | 5.18E+01 | 4.47E+01 | 8.25E+00 |
| RF | 1.71E+01 | NC | NC | 8.29E+00 | 2.62E+01 | 7.26E+00 | NC |
| RF-RES | | | | | | | |
| SR | 2.75E+00 | 6.86E+01 | 1.47E+00 | 5.30E-01 | 2.52E+00 | 2.49E+00 | NC |
| SR-OFF | 1.40E-01 | 0.00E+00 | 6.51E+01 | 2.22E-01 | 5.21E+00 | 7.18E+00 | NC |
| SR-TOTAL | 2.76E+00 | 6.86E+01 | 2.61E+00 | 5.40E-01 | 2.62E+00 | 2.61E+00 | NC |

NOTE: NC → Cannot Be Calculated Due to Data Discrepancy

Table 3
RADIONUCLIDE SCALING FACTORS (SF_s)

| TOTAL ESTIMATED ACTIVITY FOR STORED VOLUME (Without Scale-up) | | | | | | |
|---|---------------|---------------|---------------|---------------|---------------|--------------|
| Stored Am-241 | Stored Cm-244 | Stored Pu-238 | Stored Pu-239 | Stored Pu-240 | Stored Pu-241 | Stored U-234 |
| 2.40E+05 | 2.61E+03 | 7.55E+05 | 3.60E+05 | 6.88E+04 | 1.08E+06 | 7.54E+01 |

| TOTAL ESTIMATED ACTIVITY FOR PROJECTED VOLUME (Without Scale-up) | | | | | | |
|--|--------------|--------------|--------------|--------------|--------------|-------------|
| Proj. Am-241 | Proj. Cm-244 | Proj. Pu-238 | Proj. Pu-239 | Proj. Pu-240 | Proj. Pu-241 | Proj. U-234 |
| 5.05E+04 | 3.35E+03 | 4.94E+05 | 2.16E+05 | 3.75E+04 | 2.96E+05 | 3.64E+00 |

| TOTAL WIPP ACTIVITIES (Based on CCA Radionuclide Table) | | | | | | |
|---|----------|----------|----------|----------|----------|----------|
| Am-241 | Cm-244 | Pu-238 | Pu-239 | Pu-240 | Pu-241 | U-234 |
| 4.42E+05 | 3.15E+04 | 2.61E+06 | 7.85E+05 | 2.10E+05 | 2.31E+06 | 4.65E+02 |

| CALCULATED SCALING FACTOR FOR EACH NUCLIDE | | | | | | |
|--|--------|--------|--------|--------|--------|--------|
| Am-241 | Cm-244 | Pu-238 | Pu-239 | Pu-240 | Pu-241 | U-234 |
| 4.01 | 8.61 | 3.75 | 1.97 | 3.76 | 4.17 | 106.94 |

Table 4
VOLUME SCALING FACTOR (SF_v)

| |
|---------------------------------------|
| WIPP CAPACITY FOR CH-TRU WASTE |
| 168500 |

| |
|--|
| TOTAL STORED VOLUME FOR ALL WASTE STREAMS |
| 58533.25 |

| |
|---|
| TOTAL PROJ. VOLUME FOR ALL WASTE STREAMS WITH RAD DATA |
| 16865.15 |

| |
|---|
| VOLUME SCALING FACTOR (SF_v) |
| 6.52 |

Note: $(168500 - 58533.25) / 16865.15 = 6.52$

APPENDIX B - 3

memorandum

Carlsbad Area Office
Carlsbad, New Mexico 88221


DATE: MAR 15 1996
REPLY TO: CAO:NTP:RLB 96-0687
ATTN OF:
SUBJECT: Preliminary Estimate of Complexing Agents in TRU Solidified Waste Forms Scheduled for Disposal in WIPP
TO: Les E. Shephard, Director, SNL/NM

Attached is a copy of the report containing the preliminary estimates of complexing agents in transuranic (TRU) solidified waste forms scheduled for disposal in the Waste Isolation Pilot Plant (WIPP). This information was requested from the Transuranic (TRU) Waste Baseline Inventory Report (TWBIR) team in support of the Performance Assessment (PA) being conducted by Sandia National Laboratory (SNL). Information has been received from the Rocky Flats Environmental Technology Site (RFETS), the Los Alamos National Laboratory (LANL), and the Oak Ridge National Laboratory (ORNL) on potential complexing agents in their solidified waste forms.

The original scope of this request was to ask the TRU waste generator/storage sites about potential "aqueous-soluble chelating agents" in their solidified waste forms. As this subject was researched, two things were realized. First, in lieu of the term "chelating agent," the term "complexing agent" should be used. "Chelating agents" are a subset of "complexing agents" and as such a more complete assessment would cover the presence of potential "complexing agents." Secondly, it was recognized that "aqueous-soluble" is a relative concept in that essentially everything is "aqueous-soluble" at some concentration level. Therefore, the data provided here are for all complexing agents reported by the sites. These data will allow SNL personnel to determine the cutoff of solubility where certain compounds are no longer considered to be of interest for PA calculations.

The final report at the end of March will contain the necessary attached documentation, references, and elaborated text summaries.

If you have any questions concerning the attached information, please contact Mr. Russ Bisping of my staff at (505) 234-7446.


Don Watkins
Manager
National TRU Program

Attachment



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Les E. Shephard

- 2 -

MAR 15 1996

cc w/attachment:

K. Hunter, CAO

M. McFadden, CAO

R. Bisping, CAO

P. Drez, CTAC

J. Harvill, CTAC

L. Sanchez, SNL

M. Chu, SNL

M. Marietta, SNL

Complexing Agents Site Summaries

ORNL

ORNL has provided a list of organic compounds which contain some aqueous-soluble compounds that are apparent complexing agents. A copy of the list of all compounds reported by ORNL to the BIR team is attached for completeness (Table 1). The list in Table 1 is from an ORNL report on low-level waste, but the same compounds are anticipated to occur in the TRU waste based on process history. ORNL cannot quantify these compounds in their solidified wastes, but have provided an estimate of Total Organic Carbon (TOC) for each TRU waste tank (Table 2). The sum of the TOC from all the transuranic RH-TRU tanks is approximately 3691 kg. It is anticipated that most of the TOC in the tanks is not associated with complexing agents, but that has not been verified at this time. As a conservatism, SNL/NM can assume that any complexing agents listed in Table 1 could form the bulk of the TOC in the ORNL RH-TRU tanks.

LANL

Los Alamos National Laboratory has provided estimates of four complexing agents that are anticipated to occur in their TRU solidified waste streams and as materials used in decontamination and spill clean-up operations (that would occur with the debris wastes). The quantities of these compounds are listed in Table 3.

RFETS/INEL

The information provided by RFETS will also be used to estimate the amount of complexing agents in the RFETS retrievable waste (post 1970) at Idaho National Engineering Laboratory (INEL). Attached is a listing of chemicals from RFETS that was provided to the BIR team as a basis for potential complexing agents in TRU waste scheduled for shipment to and disposal in WIPP. This same list was originally put together as part of the documentation requested by the State of Nevada to document that less than 1% "complexing" agents occur in RFETS solidified low-level "saltcrete" waste that would be shipped to NTS for disposal.

The list was provided as a yearly estimate of complexing agents used on site at RFETS. It is conservative to assume that all of these complexing agents would reside in the TRU waste. Based on the authors understanding at this time, the inventory of RFETS complexing agents is across the entire site, so this should include material expected to occur in the debris wastes (this will be verified for the final version of this memo). The mass of complexing agents reported in Table 3 for RFETS results from multiplying the yearly estimates (in kilograms) by 20 years of production at RFETS (1970-1989), which includes RFETS waste in storage at INEL.

Table 1. Organic chemicals used regularly in the TPP (7920) and TURF (7930) and subsequently discharged to the ORNL LLLW system

| Chemical | Approximate Annual Usage |
|---|--------------------------|
| Acetic acid | m ^a |
| Acetone | 100 L |
| Adogen-364-HP (~triarylamine) | 100 L |
| Carbon tetrachloride | m |
| Deodorized mineral spirits (Amsco) | 1000 L |
| 2,5-di-tert-butylhydroquinone (DBHQ) | m |
| Diethylbenzene (DEB) | 800 L |
| Diethylenetriaminepentaacetic acid (DPTA) | m |
| Di (2-ethylhexyl) phosphoric acid (HDEHP) | 200 L |
| Di-isopropylbenzene (DIPB) | 100 L |
| Ethanol | 100 L |
| Ether | m |
| Ethylenediaminetetraacetic acid (EDTA) | m |
| 2-ethyl-1-hexanol | m |
| α -hydroxyisobutyric acid | m |
| Isopropanol | m |
| Methanol | m |
| n-dodecane | m |
| n-paraffin (NPH) | m |
| Oxalic acid | m |
| Thenoyltrifluoroacetone (TTA) | m |
| Tributylphosphate (TBP) | m |
| Trichloroethylene (TCE) | m |
| Xylene | m |

^am = minimal usage: ≤ 10 kg/year or $\leq L$ /year.
Bates, 1988

Table 2. ORNL Total Organic Carbon Estimates

| TRU Tanks | Tank No. | Volume (m3) | Mass (kg) | TOC (mg/kg) | TOC (kg) |
|----------------------------|----------|-------------|-----------|------------------|----------------|
| INACTIVE TANKS | | | | | |
| North Tank Farm | W-03 | 5.3 | 5670 | 5300 | 30.05 |
| | W-04 | 18.2 | 24527 | 200 | 4.91 |
| South Tank Farm | W-07 | 37.5 | 45715 | 1300 | 59.43 |
| | W-08 | 11.4 | 14080 | 8400 | 118.27 |
| | W-09 | 0.8 | 833 | 2900 | 2.42 |
| | W-10 | 28 | 31650 | 4900 | 155.09 |
| Old Hydrofracture Facility | T-01 | 3 | 4845 | 18600 | 90.12 |
| | T-02 | 4.6 | 7328 | 28000 | 205.18 |
| | T-03 | 7.7 | 14829 | 9140 | 135.54 |
| | T-04 | 5 | 6142 | 4620 | 28.84 |
| | T-09 | 1.9 | 2967 | 7620 | 22.61 |
| ACTIVE TANKS | | | | | |
| Evaporator Facility | C-2 | 43.5 | 63893 | 3281 | 209.50 |
| | W-21 | 17.3 | 38524 | 6480 | 249.64 |
| | W-22 | 43.5 | 60939 | 22.1 | 1.35 |
| | W-23 | 64.2 | 89818 | 4120 | 370.05 |
| MVSTs | W-24 | 52 | 72861 | 2940 | 214.21 |
| | W-25 | 90.7 | 126911 | 2330 | 295.70 |
| | W-26 | 59.2 | 82930 | 6220 | 515.82 |
| | W-27 | 69.1 | 96707 | 3135 | 303.18 |
| | W-28 | 16.5 | 23051 | 2500 | 57.63 |
| | W-29 | 46.4 | 64913 | 3531 | 229.21 |
| | W-30 | 46 | 64383 | 3531 | 227.34 |
| | W-31 | 26.3 | 36828 | 4470 | 164.62 |
| | | | | Total TOC | 3690.69 |

Table 3. RF/INEL and LANL Complexing Chemicals Estimate

| Potential Complexing Agents in Rocky Flats (Including Stored at INEL) and LANL Waste | | | | | |
|--|--|--------------|--|----------------|-----------------|
| Compound | | RF Mass (kg) | | LANL Mass (kg) | Total Mass (kg) |
| Ascorbic Acid | | 90 | | 7 | 97 |
| Acetic Acid | | 132 | | 10 | 142 |
| Sodium Acetate | | 1110 | | | 1110 |
| Citric Acid | | 90 | | 1100.5 | 1191 |
| Sodium Citrate | | 400 | | | 400 |
| Oxalic Acid | | 90 | | 13706 | 13796 |
| EDTA | | 23 | | | 23 |
| 8-Hydroxyquinoline | | 46 | | | 46 |
| Tributyl Phosphate | | 74 | | | 74 |
| 1,10 Phenanthroline | | 0.24 | | | 0 |
| Dibutyl-n,n-diethylcarbamoyl-methylphosphonate | | 72 | | | 72 |

PRELIMINARY

APPENDIX B - 4

United States Government

Department of Energy

memorandum

Carlsbad Area Office
Carlsbad, New Mexico 88221

DATE: March 29, 1996

REPLY TO
ATTN OF: NTP:DW:96-1111

SUBJECT: Current Estimate of Complexing Agents in Transuranic Solidified Waste Forms Scheduled for Disposal in WIPP

TO: Les E. Shephard, Director, SNL/NM

Attached is a copy of the report containing the preliminary estimates of complexing agents in transuranic (TRU) solidified waste forms scheduled for disposal in the Waste Isolation Pilot Plant (WIPP). This information was requested from the TRU Waste Baseline Inventory Report (TWBIR) team in support of the Performance Assessment (PA) being conducted by Sandia National Laboratory (SNL) and is based on input from the following TRU waste sites: Rocky Flats Environmental Technology Site (RFETS), Los Alamos National Laboratory (LANL), Oak Ridge National Laboratory (ORNL), Savannah River Site (SRS), Hanford Operations (Hanford), and Lawrence Livermore National Laboratory (LLNL).

The complexing agent inventories provided in this letter are in response to a Sandia National Laboratory (SNL) request for information from the U. S. Department of Energy (DOE) Carlsbad Area Office (CAO). A copy of the original request for this complexing agent information is contained in Appendix B of Revision 2 of the TWBIR (DOE/CAO-95-1121, December 1995). The documents attached represent the final information requested for this input to the Performance Assessment (PA) and satisfy the commitment on this subject contained in the March 15, 1996, memorandum (CAO:NTP:RLB 96-0687) to respond to SNL before the end of March. It should be specifically noted that all waste inventory volumes quoted are derived from Rev. 2 of the TWBIR.

Tables 1 and 2 provide a summary of Total Organic Carbon (TOC) in the remote-handled (RH)-TRU sludges from ORNL and a list of possible complexing agents that may contribute to the TOC in the sludges. Table 3 provides a summary of specific complexing agents that may be present in the TRU waste for SNL use.

Table 4 summarizes the volume of stored and projected TRU waste that contributes to the estimate of complexing agents in the waste. For contact handled (CH)-TRU waste, greater than 94% of TRU stored and projected final waste forms, greater than 98% of the Solidified Organic final waste forms, and greater than 92% of the Solidified Inorganic final waste forms contribute to the complexing agent estimate. For RH-TRU waste, greater than 86% of TRU stored and projected final waste forms, 100% of the Solidified Organic final waste forms, and 100% of the Solidified Inorganic final waste forms contribute to the complexing agent estimate.



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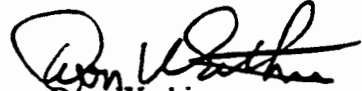
Les E. Shephard

- 2 -

March 29, 1996

The attached site summary, tables, and background references contain greater detail about the basis for these estimates.

If you have any questions concerning the enclosed information, please contact Mr. Russ Bisping of my staff at (505) 234-7446.


Don Watkins
Manager
National TRU Program

Attachment

cc w/attachment:

R. Bisping, CAO

G. Basabilvazo, CAO

P. Drez, CTAC

L. Sanchez, SNL

M. Chu, SNL

M. Marietta, SNL

J. Harvill, CTAC

SITE SUMMARY

BACKGROUND

Information has been received from all sites that were requested to provide data on potential complexing agents in their solidified waste forms: Rocky Flats Environmental Technology Site (RFETS), Los Alamos National Laboratory (LANL), and Oak Ridge National Laboratory (ORNL). Several transuranic (TRU) waste sites which either generate no solidified waste forms or small quantities have also responded. A copy of the Carlsbad Area Office (CAO) memorandum requesting the complexing agent information from the sites is included (Attachment 1).

The term "complexing agent" is being used in lieu of "chelating agents" in this memo, since chelating agents usually have a certain structure (chelating comes from the Greek work "chele" for claw, as in a crab) and are considered a subset of complexing agents. That is, the acetate ion will "complex" with some metals and increase their solubility but does not have the structure that would label it as a chelating agent. A "commonly" known chelating agent is EDTA (ethylenediaminetetraacetic acid), which contains functional (acetate) anion groups arranged in parallel which resemble a "claw"-like structure for complexing the cations. EDTA has two claw structures at either end of the molecule.

The original scope of this task was to ask the TRU waste sites about "aqueous-soluble" complexing agents in their solidified waste forms. As this task was researched, the authors realized that the term "aqueous-soluble" is only a relative term, since everything is aqueous-soluble at some concentration level. Therefore, every potential chemical compound that has been reported from the TRU waste sites is included and the task of selecting aqueous-soluble compounds is left to the Sandia National Laboratory (SNL) personnel in charge of Performance Assessment (PA) calculations.

TRU WASTE SITE RESPONSES

Oak Ridge National Laboratory (ORNL)

ORNL has provided a list of organic compounds that contain some aqueous-soluble compounds that are apparent complexing agents. A copy of the list of all compounds reported by ORNL to the TRU Waste Baseline Inventory Report (TWBIR) team is attached for completeness (Table 1). The list in Table 1 is from an ORNL report on low-level waste (Kaiser, 1988), but the same compounds are anticipated to occur in the TRU waste based on process history (but not necessarily at the same concentrations). ORNL cannot quantify these compounds in their remote-handled (RH)-TRU solidified wastes, but have provided an estimate of Total Organic Carbon (TOC) for each RH-TRU waste tank (Table 2). The sum of the TOC from all the RH-TRU tanks is approximately 3691 kg. It is anticipated that most of the TOC in the tanks is not

associated with complexing agents, but that has not been verified at this time. As a conservatism, SNL can assume that any complexing agents listed in Table 1 could form the bulk of the TOC in the ORNL RH-TRU tanks.

Los Alamos National Laboratory (LANL)

LANL has provided estimates of four complexing agents that are anticipated to occur in their TRU solidified waste streams and as materials used in decontamination and spill clean-up operations (that would occur with the debris wastes) (Attachment 2). The quantities of these compounds are summarized in Table 3.

Rocky Flats Environmental Technology Site (RFETS/INEL)

The information provided by RFETS has been used to estimate the amount of complexing agents in the RFETS retrievable waste (post 1970) at Idaho National Engineering Laboratory (INEL). Attached is a listing of chemicals from RFETS that was provided to the TWBIR team as a basis for potential complexing agents in TRU waste scheduled for shipment to and disposal in WIPP (Table 3). This same list was originally put together as part of the documentation requested by the State of Nevada to document that less than 1% "complexing" agents occur in RFETS solidified low-level "saltcrete" waste that would be shipped to the Nevada Test Site (NTS) for disposal (Attachment 3).

The list was provided as a yearly estimate of complexing agents used on site at RFETS. It is conservative to assume that all of these complexing agents would reside in the TRU waste. The inventory of complexing agents is the best estimate for all TRU waste generated across the entire RFETS site, which includes debris wastes. The mass of complexing agents reported in Table 3 for RFETS are arrived at by multiplying the yearly estimates (in kilograms) by 20 years of production at RFETS (1970-1989), which includes RFETS waste in storage at INEL. The yearly estimates can be found in Attachment 3.

Savannah River Site (SRS)

The SRS has provided information (see letter included as Attachment 4) on three complexing agents used on site in connection with their operations: tributyl phosphate (TBP), tri-octyl phosphine oxide (TOPO), and tri-iso octylamine (TiOA). As discussed in the SRS letter, none of these compounds are expected to be found in SRS TRU waste.

Hanford Operations

Hanford Operations has provided a listing from their database of potential chemicals in their TRU waste. The only chemical that appears on the list that might act as a chelating agent in aqueous solutions and has a reportable quantity associated with the waste is tributyl phosphate (TBP). TBP is reported under three different spellings with a total of 92.5 kg. This value is

summarized in Table 3. The entire list of chemicals and the associated quantities (in kg) reported by Hanford are included in Attachment 5.

Lawrence Livermore National Laboratory (LLNL)

LLNL submitted the letter included as Attachment 6 which documents that no chelating agents occur in the LLNL TRU waste streams.

ESTIMATED VOLUME OF TRU WASTE INCLUDED IN COMPLEXING AGENT MEMO

Column 2 of Table 4 contains a list of the total TRU waste destined for disposal in WIPP (stored plus projected to 2022). Column 3 estimates the volume of waste from each major site that has contributed to the estimate of complexing agents in TRU waste. Columns 4 and 5 provide the same data for Solidified Organics and Solidified Inorganics final waste forms. The two rows labeled "PERCENTAGE" provide an estimate of the percentage of waste for which the TRU waste sites have provided data used in estimating the complexing agents in the waste. It should be specifically noted that all waste inventory volumes quoted are derived from Rev. 2 of the TWBIR (DOE, 1995).

REFERENCES

Kaiser, L. L., 1988, "ORNL Inactive Waste Tanks Sampling and Analysis Plan," ORNL/RAP/LTR-88/24, April 29, 1988, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

U. S. Department of Energy, 1995. "Transuranic Waste Baseline Inventory Report (Revision 2)," DOE/CAO-95-1121, December 1995. Carlsbad, New Mexico.

Table 1. Organic Chemicals Used Regularly in the TPP (7920) and TURF (7930) and Subsequently Discharged to the ORNL LLLW System

| Chemical | Approximate Annual Usage |
|---|---------------------------------|
| Acetic acid | m ^a |
| Acetone | 100 L |
| Adogen-364-HP (~triarylamine) | 100 L |
| Carbon tetrachloride | m |
| Deodorized mineral spirits (Amsco) | 1000 L |
| 2,5-di-tert-butylhydroquinone (DBHQ) | m |
| Diethylbenzene (DEB) | 800 L |
| Diethylenetriaminepentaacetic acid (DPTA) | m |
| Di (2-ethylhexyl) phosphoric acid (HDEHP) | 200 L |
| Di-isopropylbenzene (DIPB) | 100 L |
| Ethanol | 100 L |
| Ether | m |
| Ethylenediaminetetraacetic acid (EDTA) | m |
| 2-ethyl-1-hexanol | m |
| α -hydroxyisobutyric acid | m |
| Isopropanol | m |
| Methanol | m |
| n-dodecane | m |
| n-paraffin (NPH) | m |
| Oxalic acid | m |
| Thenoyltrifluoroacetone (TTA) | m |
| Tributylphosphate (TBP) | m |
| Trichloroethylene (TCE) | m |
| Xylene | m |

^am = minimal usage: ≤ 10 kg/year or \leq liters/year.

Bates, 1988

Table 2. ORNL Total Organic Carbon Estimates

| TRU TANKS | TANK NO. | VOLUME (m ³) | MASS (kg) | TOC (mg/kg) | TOC (kg) |
|----------------------------|----------|--------------------------|-----------|------------------|----------------|
| INACTIVE TANKS | | | | | |
| North Tank Farm | W-03 | 5.3 | 5670 | 5300 | 30.05 |
| | W-04 | 18.2 | 24527 | 200 | 4.91 |
| South Tank Farm | W-07 | 37.5 | 45715 | 1300 | 59.43 |
| | W-08 | 11.4 | 14080 | 8400 | 118.27 |
| | W-09 | 0.8 | 833 | 2900 | 2.42 |
| | W-10 | 28 | 31650 | 4900 | 155.09 |
| Old Hydrofracture Facility | T-01 | 3 | 4845 | 18600 | 90.12 |
| | T-02 | 4.6 | 7328 | 28000 | 205.18 |
| | T-03 | 7.7 | 14829 | 9140 | 135.54 |
| | T-04 | 5 | 6242 | 4620 | 28.84 |
| | T-09 | 1.9 | 2967 | 7620 | 22.61 |
| ACTIVE TANKS | | | | | |
| Evaporator Facility | C-2 | 45.6 | 63853 | 3281 | 209.50 |
| | W-21 | 27.5 | 38524 | 6480 | 249.64 |
| | W-22 | 43.5 | 60939 | 22.1 | 1.35 |
| | W-23 | 64.2 | 89818 | 4120 | 370.05 |
| MVSTs | W-24 | 52 | 72861 | 2940 | 214.21 |
| | W-25 | 90.7 | 126911 | 2330 | 295.70 |
| | W-26 | 59.2 | 82930 | 6220 | 515.82 |
| | W-27 | 69.1 | 96707 | 3135 | 303.18 |
| | W-28 | 16.5 | 23051 | 2500 | 57.63 |
| | W-29 | 46.4 | 64913 | 3531 | 229.21 |
| | W-30 | 46 | 64383 | 3531 | 227.34 |
| | W-31 | 26.3 | 36828 | 4470 | 164.62 |
| | | | | Total TOC | 3690.69 |

Table 3. RF/INEL and LANL Complexing Chemicals Estimate

| POTENTIAL COMPLEXING AGENTS IN ROCKY FLATS (INCLUDING STORED AT INEL), LANL, HANFORD TRU WASTE | | | | |
|---|-----------------------------------|-------------------------------------|--|------------------------|
| COMPOUND | RF MASS (kg)⁽¹⁾ | LANL MASS (kg)⁽²⁾ | HANFORD MASS (kg)⁽³⁾ | TOTAL MASS (kg) |
| Ascorbic Acid | 90 | 7 | | 97 |
| Acetic Acid | 132 | 10 | | 142 |
| Sodium Acetate | 1110 | | | 1110 |
| Citric Acid | 90 | 1100.5 | | 1190.5 |
| Sodium Citrate | 400 | | | 400 |
| Oxalic Acid | 90 | 13706 | | 13796 |
| EDTA | 23 | | | 23 |
| 8-Hydroxyquinoline | 46 | | | 46 |
| Tributyl Phosphate | 74 | | 92.5 | 166.5 |
| 1,10 Phenanthroline | 0.24 | | | 0.24 |
| Dihexyl-n,n-diethylcarbamoyl-methylphosphonate | 72 | | | 72 |

⁽¹⁾ Letter from W.F. Weston to E.S. Goldberg, No. 89-RF-3055, dated September 1, 1989 (Attachment 3)
⁽²⁾ Memorandum from C.L. Foxx to P. Drez dated March 12, 1996 (Attachment 2)
⁽³⁾ Memorandum from F.M. Coony and M.R. Kerns to L.C. Sanchez through S. Lott, dated January 25, 1996 (Attachment 5)

memorandum

Carlsbad Area Office
Carlsbad, New Mexico 88221

DATE: JAN 5 1996

REPLY TO
ATTN OF: CAO:NTP:PLB 96-0605

SUBJECT: Additional Transuranic (TRU) Waste Data Request for Sandia National Laboratories' Waste Isolation Pilot Plan (WIPP) Performance Assessment

TO: Distribution

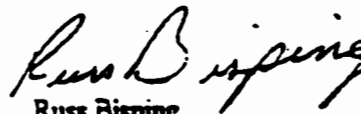
We have been informed by representatives from Sandia National Laboratories (SNL) working on WIPP Performance Assessment (PA) that they require more information on certain TRU waste-related parameters in order to assess their influence on WIPP PA (see attached copy of relevant pages from SNL memo).

Data for most of these parameters have already been received from the sites either through responses to the Baseline Inventory Report (BIR), Revision 2, questionnaire or by discussions with site representatives. However, since the request from SNL for data on water soluble organic ligands (i.e., chelating agents) was not received in time for inclusion in the BIR Rev. 2 data call, WIPP PA still needs data for this parameter. As per the SNL memo, the data are needed by the end of February 1996, and therefore it is being addressed through this request separately from the upcoming BIR Rev. 3 data call.

As documented in the SNL memo, WIPP PA would like to have "best estimates" that are realistic and not overly conservative. Consequently, all sites that have existing data on chelating agents present in their waste are requested to submit the best available information to the BIR technical staff by February 26, 1996. The details on the nature of the information being requested by WIPP PA are being provided in Table 3 of the attachment.

A representative from SNL WIPP PA will be available at the upcoming BIR, Revision 3, Data Call Meeting to be held in Concord, California, on January 10, 1996. We anticipate that a brief presentation will be made at this meeting by WIPP PA staff explaining the importance of the data followed by any questions from site representatives. If you have any questions/clarifications regarding this matter, please be ready to discuss these at the upcoming meeting in Concord with the SNL WIPP PA representative.

Thank you for your continued cooperation.


Russ Bisping
Waste Certification Manager

Attachment



PRINTED ON RECYCLED PAPER

Table 4. Calculation of Amount of Waste Covered

| Major Sites | Total TRU (m ³) | Accounted For in Complexing Agent Estimate (m ³) | Solidif. Org (m ³) | Solidif. Inorg. (m ³) |
|---|--------------------------------|--|-----------------------------------|--------------------------------------|
| CH-TRU⁽¹⁾ | | | | |
| RL ⁽²⁾ | 45515.43 | 45515.43 | 0 | 23.39 |
| INEL ⁽³⁾ | 28606.74 | 25657.4 | 789.67 | 3349.6 |
| LLNL ⁽⁴⁾ | 941.13 | 941.13 | 0 | 20.18 |
| LANL ⁽⁴⁾ | 18405.15 | 18405.15 | 30.58 | 6922.02 |
| NTS ⁽⁵⁾ | 627.91 | 627.91 | 0 | 5.67 |
| ORNL ⁽⁶⁾ | 1560.42 | 0 | 0 | 0 |
| RFETS ⁽⁷⁾ | 5107.92 | 5107.92 | 140.93 | 1423.01 |
| SRS ⁽⁸⁾ | 9648.15 | 9648.15 | 0 | 1369.8 |
| Total Major Sites | 110412.85 | 105903.09 | 961.18 | 13113.67 |
| Total CH-TRU | 111721.43 | 111721.43 | 980 | 14108.51 |
| PERCENTAGE ⁽¹⁰⁾ | | 94.79 % | 98.08 % | 92.95 % |
| RH-TRU⁽¹⁾ | | | | |
| RL ⁽²⁾ | 21729.35 | 21729.35 | 0 | 0 |
| INEL ⁽³⁾ | 220.72 | 196.98 | 3.56 | 65.27 |
| LANL ⁽⁴⁾ | 193.13 | 193.13 | 0 | 0 |
| ORNL ⁽⁶⁾ | 2915.64 | 1243.33 | 0 | 1243.33 |
| Total Major Sites | 25058.84 | 23362.79 | 3.56 | 1308.6 |
| Total RH-TRU | 26930.88 | 26930.88 | 3.56 | 1308.6 |
| PERCENTAGE ⁽¹⁰⁾ | | 86.75 % | 100.00 % | 100.00 % |
| <p>⁽¹⁾ Table 4-3 to 4-23, Rev. 2 TWBIR</p> <p>⁽²⁾ Non RFETS Waste Subtracted</p> <p>⁽³⁾ Letter from K. Hainebach to J. Teak dated March 7, 1996 (Attachment 6)</p> <p>⁽⁴⁾ Memorandum from C.L. Foxx to P. Drez dated March 12, 1996 (Attachment 2)</p> <p>⁽⁵⁾ NTS waste is derived from LLNL only, see (4)</p> <p>⁽⁶⁾ ORNL was only asked to estimate complexing agents in solidified RH-TRU waste per DOE memorandum dated January 5, 1996 (Attachment 1)</p> <p>⁽⁷⁾ Letter from W.F. Weston to E.S. Goldberg, Letter No. 89-RF-3055, dated September 1, 1989 (Attachment 3)</p> <p>⁽⁸⁾ Letter from J. D'Amelio to J. Teak, SWE-SWE-96-0106, dated February 28, 1996 (Attachment 4)</p> <p>⁽⁹⁾ Memorandum from F.M. Coony and M.R. Kerns to L.C. Sanchez through S. Lott, dated January 25, 1996 (Attachment 5)</p> <p>⁽¹⁰⁾ Volume percentage of total TRU waste, Solidified Organics, and Solidified Inorganics accounted for in complexing agent memorandum.</p> | | | | |

B) Special Request Non-PA Items

Also wanted at this time is additional information for several waste material characteristics. Although these characteristics have not been identified as waste material parameters to be used for WTPP PA, they are needed for non-PA scoring calculations to assess their influence on PA. Since these items are not currently PA parameters, inventory estimates of these characteristics as "additional information" in the TWBIR or supplied outside of the TWBIR via written correspondence. Below you will find an annotated list of these special request items.

1) Non-radiolactive Materials

Additional information is needed on the five waste material characteristics (see Table 2): 1) verified waste, 2) nitrate (NO_3^-), 3) sulfates (SO_4^{2-}), 4) phosphorus, and 5) cement. Of these waste parameters, the last four are needed for the gas generation modeling. The nitrates and the sulfates are involved in the denitrification and sulfate reduction processes which breaking the cellulose, while the phosphorus is a nutrient for bioactivity of cellulose. The estimate of the mass quantities of cement in the waste inventory should include both the cement that is contained in the waste as cement itself (due to D&D activities, etc.) and the cement found in various sludges. Cement consumes CO_2 due to its content of $Ca(OH)_2$. The estimates for this non-radiolactive waste constituent need only be "best estimates" at this present time so that non-PA scoring calculations can be made to determine their importance on overall repository performance. (Do not generate upper-bound estimates that are overly conservative.)

2) Residues

"Best estimates" are needed for residues, in addition to those already identified at the Rocky Flats Plant (RFP), that have the possibility of being changed from a resource category to a TRU waste category.

3) Organic Ligands (Chelating Agents)

"Best estimates", from currently available information, are needed for major water-soluble organic ligands which are under consideration for the residue sources area (see Table 3). If it is not possible to obtain data from major waste generating sites then supply guidance on how a first-order estimate may be made (from existing information such as process knowledge etc.) so that non-PA scoring calculations can be performed to identify if the presence of these ligands would have any significant impacts. (Do not generate estimates that are overly conservative.) Requested data is for final form "process-level" quantities used in production only for the key sites. If information on the "process-level" values does not exist at the key sites, then "laboratory-scale" values should be used in the requested assessment of the inventory. Should it be determined that more detailed information on organic ligands will be needed, you will be given a specific written request at a future time. This effort should be performed in parallel with the TWBIR. Technical data should be supplied in memorandum form by the end of February 1996 with supporting documentation by the end of March 1996.

**Table 3. Justification of Special Request For Info
On Organic Complexing Agents. (a)**

| Ligand (b) | Discussion (c) |
|--|---|
| 1) Total Complexants | The most valuable information at this time is a "best estimate" of the total amount of water soluble complexing agents (ligands) in the TRU waste matrix. |
| 2) Citrate | Preliminary information indicates that citrate (citric acid) may be the largest used ligand at TRU waste generating sites. Hence, inventory quantities are very important. |
| 3) Lactate | This is an important ligand that is produced by bacteria as part of its own metabolism. What is requested here is a "best estimate" of the quantity of lactate that actually exists in the TRU waste matrix (not just an initial amount supplied as part of a waste stream). However, if this information cannot be developed, then supply information on the initial amount. |
| 4) Oxalate | This is an important ligand that is produced by bacteria as part of its own metabolism. What is requested here is a "best estimate" of the quantity of oxalate that actually exists in the TRU waste matrix (not just an initial amount supplied as part of a waste stream). However, if this information cannot be developed, then supply information on the initial amount. |
| 5) EDTA | This ligand (ethylenediaminetetraacetic acid) is also of major importance due to its common use as a cleaning solvent. |
| <p>(a) Information on these additional waste materials are needed for non-PA scoping calculations for assessment of their importance. The presence of these complexing agents are important for the actinide source term, with respect to increasing the solubility of radionuclides.</p> <p>(b) These items are ranked in the order of their importance in the actinide source term.</p> <p>(c) Also supply any available information that TRU waste generation sites may have on the degradation or decay rates of ligands in current (and expected) waste matrices if possible. In cases where no information is available, supply guidance on estimating first-order quantities.</p> | |

LCS:6741:lcs/(95-2082)

Copy to:

P.E. Drez (Drez Environmental Associates)

D. Bretzke (Science Applications International Corporation)

S. Chakraborty (Science Applications International Corporation)

MS-1320. C.F. Novak (Dept. 6119)

MS-1323. H. Jow (Dept. 6741)

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Los Alamos

NATIONAL LABORATORY

memorandum

Waste Management and
Environmental Compliance
NMT-7 MS E501

To: MS Paul Drez, Drez Environ Assoc.

Thru: James J. Balkov, NMT-7, MS E501 7/98

From: MS C. L. Fox, NMT-7, MS E501 6/25
7-2328/ 7-9201

Phone/FAX: NMT-7-WM/EC-96-035

Synchr: March 12, 1996

Date:

SUBJECT: CHELATING AGENTS IN LANL WASTE

I am certain that I have not captured all chelating agents, but I believe that I have identified and quantified roughly the important materials. The chelators are found in three waste streams:

- 1) Cemented evaporator bottoms from TA-55
- 2) Cemented sludge from the TA-50 Pretreatment Plant and dewatered sludge from the TA-50 Liquid Waste Treatment Plant
- 3) Combustible waste from TA-55

The three streams are summarized below.

It should be noted that waste generation data and analyses exist over the time frame of 1980 through 1995 or shorter intervals to support the estimated values. In some cases, quantitative data is almost nonexistent and the results are qualitative at best. Like Rocky Flats, plutonium processing at LANL attempts to avoid chelating agents which can interfere with recovery operations. From your list of compounds of interest, I am unaware of any significant usage of lactate or EDTA, so they have been eliminated from detailed consideration. I have added ascorbate which has been used as a reducing agent in HCl solutions, but not in nitric acid which attacks and decomposes ascorbate. One of the above streams is not an immobilized stream, but I believe that it is an important contributor of a soluble chelating agent in the form of citrate. If this information is extraneous to your purposes, just ignore it.

Cemented evaporator bottoms from TA-55. The evaporator bottoms are derived from nitric acid solutions some of which (27%) contain oxalate resulting from the precipitation of plutonium oxalate. Because of the pervasive usage of oxalate, it is contained at lower concentrations even in those solutions that do not arise from filtering an oxalate precipitate. Those numbers are based on analytical results. In addition the drums contain on the average, 3.2 liters of analytical solution residues. Those solutions contribute a negligible additional quantity of oxalate and small quantities of ascorbate, citrate and acetate. We have semi-quantitative values from the analytical organization for those chelators, based on the quantities used in the analytical processes that give rise to the residues. We know that 28 liters of solution went into a drum of cemented waste on the average from 1980 through June of 1988. Since that time, the average has been 43 liters of solution. In addition we have information regarding the number of drums generated from May, 1987 through April, 1995. The drum numbers and alternate cemented forms

for the remaining years are estimated. The totals based on those data and estimates are shown here.

| | | | |
|-----------|---------|-----------------|--------|
| oxalate | 1600 kg | 90.04 / 88.04 | = 1.02 |
| ascorbate | 7 kg | 176.14 / 175.14 | = 1.00 |
| citrate | 0.5 kg | 192.14 / 191.14 | = 1.00 |
| acetate | 10 kg | 60.05 / 59.05 | = 1.02 |

Cemented sludge from the TA-50 Pretreatment Plant and dewatered sludge from the TA-50 Liquid Waste Treatment Plant. Based on experience at the liquid waste treatment plant with upsets in the treatment process due to the presence of chelators in the waste stream, it has been assumed that TA-55 is the only significant source of chelating agents in the sludge generated at that facility. Three waste lines carry liquids from TA-55 to TA-50. The industrial waste line is thought to be reasonably free of chelating agents. The evaporator distillate in the process acid waste line is unlikely to contain significant quantities of chelators because the distillation process creates a sharp reduction in the content of nonvolatile solution species.

The process caustic waste line solution is dominated by oxalate filtrates in hydrochloric acid that have been subjected to caustic treatment and filtration. Under the conditions of that treatment the oxalate and ascorbate (used historically) are soluble and follow the solution to TA-50 for a ferrofloculation treatment. The solution is used to neutralize the nitric acid distillate. Because there is an excess of nitric acid, the neutralization is completed with the addition of stock sodium hydroxide. I have assumed that the short term excess of nitric acid decomposes the ascorbate leaving only the oxalate. I have estimated the oxalate concentration in the hydroxide filtrate at 0.075 moles/liter. If this number drives the calculation then we should sample the solution in the caustic holding tank at TA-50 and get a representative value.

Volumes of caustic solution generated by TA-55 were available for the years 1983 and 1986 through 1992. Volumes for all other years were estimated. I am assuming that the oxalate will appear in the sludges due to the low solubility of calcium oxalate and because the floculations have relatively high concentrations of calcium. In addition magnesium and aluminum oxalates are insoluble in a caustic environment. The oxalate precipitates will be found in the cemented sludge, whenever generated, and in the dewatered sludge from the early and middle 80's. These oxalates will also be found in the cement-filled corrugated metal pipe (CMP) waste stream generated at DP site when plutonium operations were located there. The total of oxalate in those waste streams is 11,800 kg. = 12070

Combustible waste from TA-55. The combustible waste stream contains rags that were used in decontamination and spill clean-up operations. In spill clean-up the rags from the first pass are nearly always TRU waste as measured on our MEGAS assay instrument. The rags are dampened with a solution labeled "versene". Versene is a name for EDTA. In the very early days of the laboratory versene solution may have contained EDTA, but it had been changed to sodium citrate solution by the time I arrived in 1969. Drums of combustible waste do not usually contain only decontamination rags and often contain no

March 12, 1996

such rags. However our waste management personnel apparently used a unique identifier over about a four year period (1987 to 1991) for the decontamination rags. Each item also had a net disposal weight associated with it. Thus I was able to get a handle on the weight of decon rags generated in that time frame. The rags were discarded not dripping but distinctly damp. I dampened some cheesecloth, weighing before and after, to estimate the weight of solution contained in the rags. Knowing the weight of solution and the concentration of the citrate, I was able to calculate a weight of citrate in the discarded rags. In May, 1991 the usage of citrate for decontamination was restricted to certain matrices. I was able to locate records for versene solution preparation from 1989 into early 1991 and then again for the past year so I could understand usage before and after 1991. From that I have estimated the usage for the remaining years. With that information, I have estimated that the citrate contained in the combustible waste stream from 1971 to 2033 will be 1100 kg.

Cy: Andy Montoya, NMT-7, MS E501
NMT-7 File

Table 8 (continued)
Reference Documents/Results Outlining Compliance
to the General Waste Form Criteria

| | | |
|------------------|--|--|
| | | Boxes." specifies Waste Operations personnel to visually inspect for and remove any excessive particulate from each stored saltcrete box. |
| Gases | Not Applicable | Saltcrete is not a gaseous waste and does not contain radioactive gases. |
| Stabilization | WO-5004 | As described in WO-5004, "Waste Treatment Spray Dryer and Saltcrete Process," cement is added to the salt waste stream to immobilize the particulate, solidify the liquids and moderate oxidizing characteristics. |
| Etiologic Agents | Not Applicable | Saltcrete does not contain pathogens, infectious wastes or other etiologic agents. |
| Chelating Agents | <p>Quantity and type of complexing agents used per year at Rocky Flats:</p> <p>Ascorbic Acid: 4.5 kg</p> <p>Acetic Acid: 6.6 kg</p> <p>Sodium Acetate: 55.5 kg</p> <p>Citric Acid: 4.5 kg</p> <p>Sodium Citrate: 20.0 kg</p> <p>Oxalic Acid: 4.5 kg</p> <p>EDTA: 1.15 kg</p> | <p>Between 5/15/87 and 5/7/88, 917 triwall boxes of saltcrete were produced. The estimated saltcrete generation for any given year is between 1200 to 1600 triwalls. The average net weight of one triwall box of saltcrete is approximately 1600 pounds. Total weight of saltcrete produced between 5/15/87 and 5/7/88 is 917 boxes * 1600 pounds * 1 kg/2.2 pounds = 6.67×10^5 kg. As a worst case, if it is assumed that all 106.36 kg of complexing agents are</p> |

Table 8 (continued)
Reference Documents/Results Outlining Compliance
to the General Waste Form Criteria

| | | |
|-----------|--|---|
| | 3-Hydroxyquinoline: 2.3 kg | disposed of with the saltcrete, then, |
| | Tributyl Phosphate: 3.7 kg | $106.36/6.67 \times 10^3 = 1.59 \times 10^{-4}$ |
| | 1,10 Phenanthroline: 0.012 kg | is the weight fraction of the complexing agents with respect to the saltcrete. |
| | diethyl-n,n- diethylcarbamoyl methylphosphonate: 3.6 kg | Therefore, Rocky Flats' total yearly usage of complexing agents amounts to only 0.0159 weight percent of the total saltcrete production between 5/15/87 and 5/7/88. This extremely conservative estimate is well under the NTS limit of 1 weight percent. |
| | Total: 106.36 kg | |
| GCD Waste | Not Applicable | Saltcrete does not meet any of the guidelines to be identified as a GCD' waste. |
| Bulk LLW | Not Applicable | Saltcrete is not a bulk LLW. |

4. Additional Mixed Waste Form Criteria

Table 9 references the documents (procedures, specifications, etc.) or test/analysis results that specify compliance to the Additional Mixed Waste Form Criteria outlined in Section 2.2.2 of NVO-325.

Table 9
Reference Documents/Results Outlining Compliance
to the Additional Mixed Waste Form Criteria

| <u>Criterion</u> | <u>Compliance Documents or Results</u> | <u>Comments</u> |
|------------------|--|--|
| Treated Waste | Not Applicable | Saltcrete is a treated waste that meets the land disposal restrictions and |

ATTACHMENT 4



Westinghouse
Savannah River Company

P O Box 616
Aiken SC 29802

February 23, 1996

SWE-SWE-96-0106
F/WSWE/XXX/ARNR
Response Required: N/A
Key Words: TRU Waste
Record Retention: Permanent

Jim Teak
Advanced Sciences, Incorporated
6739 Academy Road, N. E.
Albuquerque, New Mexico 87106-3345

Dear Mr. Teak:

**FY96 TRANSURANIC WASTE BASELINE INVENTORY REPORT (TWBIR):
RESPONSE TO THE TWBIR MEETING MINUTES REGARDING CHELATING
AGENTS AND CONCRETE STABILIZATION (U)**

The Savannah River Site (SRS) has reviewed its waste practices to determine whether chelating agents are present in retrievably stored TRU waste. SRS also has reviewed these practices to determine whether concrete has been used to solidify/stabilize TRU waste. These reviews revealed that SRS TRU waste streams do not currently contain chelating agents/complexants nor has SRS used concrete to solidify/stabilize TRU waste.

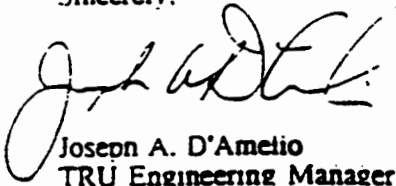
The Separations processes and the analytical/research laboratories at SRS have used chelating agents in the separation of plutonium from irradiated uranium and other materials. For example, tri-butyl phosphate (TBP) is the complexing agent used in SRS's PUREX process and many other laboratory processes. Also, agents such as tri-octyl phosphine oxide (TOPO) and tri-iso octylamine (TIOA) have been used or investigated through the years. However, none of these chelating agents/complexants has entered SRS TRU waste. The complexants are dissolved in organic solvents for use as liquid/liquid extractants in the separation process. These solvents are recycled until depleted and then discarded to SRS's solvent waste tanks in the Waste Disposal Facility. This means that SRS organic liquid streams have not entered the production lines (e.g., HB and FB-Lines) where most of SRS TRU waste is generated. Further, a small amount of liquid TBP containing TRU nuclides is generated by SRS laboratories. This laboratory waste is discarded to liquid waste streams, which are eventually disposed in SRS's High Level Waste Tanks. So, none of these liquid streams that contain complexants have entered SRS solid TRU waste streams.

SRS has not used concrete to solidify/stabilize TRU waste. The processes that generate slurries, which require stabilization, do not contain TRU radionuclides (e.g., plating of depleted uranium). For other processes that generate slurries, the waste is disposed in SRS's High Level Waste Tanks. Even the Low Level Waste (LLW) sludge generated by SRS's Effluent Treatment Facility (ETF) is disposed in the High Level Waste Tanks and is eventually

ted to SRS's Saltstone Facility or the Defense Waste Processing Facility (DWPF). Finally, SRS does not expect to generate TRU waste containing chelating agents nor anticipate using concrete to solidify/stabilize TRU waste in the near-future.

Please direct your questions to L. Williams (803) 557-6759

Sincerely,



Joseph A. D'Amelio
TRU Engineering Manager

JAD:lw

cc: A. Gibbs. 724-21E
W. T. Goldston. 705-3C
F. H. Gunneis. 705-3C
S. J. Mackmull. 703-A
S. J. Mentrup. 724-21E
D. Ormond. 703-A
L. Williams. 705-3C
Records Management. 705-3C
SWE Files. 705-3C

ATTACHMENT 5

To: L. C. Sanchez, SNL

January 25, 1996

Thru: Sheila Lott, CTAC

~~L. C.~~

From: F. M. Coony and M. R. Kerns, Hanford Site

RE: Additional TRU Waste Data Request for Sandia National Laboratories' Waste Isolation Pilot Plant Performance Assessment

References: 1) Memorandum, Russ Blasing, DOE/CAO to Distribution, same subject, dated January 5, 1996.

2) Trip Report, F. M. Coony to K. L. Hladak, January 15, 1996

The Reference 1 memo requests additional data on waste soluble organic ligands (i.e. chelating agents) from the generating sites by February 28, 1996.

Hanford's approach for responding to the additional data request is presented in the Reference 2 trip report. The first item of this approach is to provide SNL through CTAC, a list of all hazardous constituents, and their quantities, that have been reported in solid TRU waste at Hanford since 1987, the date of the By-Product Rule.

The list of hazardous constituents and their quantities, from Hanford's record container tracking system, are presented in Table 2. The chemical names have been truncated to 30 characters. Hanford can provide complete names if needed. In some cases, the constituent is listed more than once because the constituent is spelled differently in the container tracking system. A quantity of 0.00 kg means typically that the constituent has been identified solely because it is a listed hazardous waste under RCRA. In these cases, the quantity is either absent or minimal.

Please evaluate the list of constituents, and indicate, in the space provided for each constituent, if the constituent is a soluble organic ligand. The suggested nomenclature is the following:

- N/A (meaning not soluble organic ligand)
- C (meaning citrate)
- L (meaning lactate)
- OX (meaning oxalate)
- EDTA (meaning ethylenediaminetetraacetic acids)

Please indicate any other relevant information by footnotes.

To meet the requested due date, please provide a response to me (by fax) no later than February 5, 1996. Please copy CTAC on the response.

If you have any questions, please contact Mike Coony at 509-376-9774 or Mark Kerns at 509-372-2383.

MAS-

(KG)

Table 2. Quantities of Hanford Constituents

| Constituent | Quantity (kg) |
|-------------------------------|---------------|
| 1,1,1-TRICHLOROETHANE | 0.001 |
| 2-BUTOXYETHANOL | 0.021 |
| ACETONE | 0.001 |
| ACID | 0.141 |
| ALUMINUM NITRATE | 0.101 |
| ALUMINUM NITRATE MONOHYDRATE | 3.801 |
| AMERCOAT 234 | 0.051 |
| AMMONIUM CHLORIDE | 0.011 |
| ARSENIC | 0.021 |
| ASBESTOS | 27.001 |
| BARIUM | 1.881 |
| BERYLLIUM | 0.171 |
| BIS(2-ETHYLHEXYL)PHTHALATE | 0.821 |
| BISPHENOL A RESIN | 0.541 |
| BUTYL ALCOHOL | 0.411 |
| BUTYL GLYCIDYL ETHER | 0.111 |
| CADMIUM | 99.171 |
| CADMIUM HYDROXIDE | 0.101 |
| CALCIUM CHLOROFLUOROPHOSPHATE | 0.831 |
| CALCIUM HYDROXIDE | 0.081 |
| CARBON TETRACHLORIDE | 87.881 |
| CARBONTETRACHLORIDE | 95.901 |
| CHLOROFORM | 0.001 |
| CHROMIUM | 14.521 |
| COPPER | 0.001 |
| COPPER SULFATE | 0.381 |
| CREBYLIC ACID | 0.001 |
| CUPROUS CYANIDE | 0.211 |
| CYANIDE SOLUTIONS | 0.211 |
| CYCLOHEXANE | 0.001 |
| DI(2-ETHYLHEXYL)PHTHALATE | 0.081 |
| DI-OCTYL PHTHALATE | 0.401 |
| DIOCTYL PHTHALATE | 0.201 |
| DIOCTYL PHTHALATE (DOP) | 8.471 |
| ETHANOL | 0.201 |
| FERRIC NITRATE | 4.381 |
| FORMIC ACID | 0.211 |
| HEXONE | 0.101 |
| HYDRAULIC FLUID | 328.201 |
| HYDROCHLORIC ACID | 0.071 |

MASS
(KG)

| Hazardous Constituent | Mass (kg) |
|----------------------------------|-----------|
| KEROSENE | 0.00 |
| LEAD | 8.915.59 |
| LEAD ACID | 0.27 |
| LEAD CHROMATE | 28.97 |
| LEAD CHROMATE OXIDE | 1.54 |
| LEAD CHROMATE, CHLORIN. PARAFFIN | 1.33 |
| LEAD CHROMATES | 0.05 |
| LEAD SHIELDING | 5.597.50 |
| LIGHT AROMATIC NAPHTHA | 0.30 |
| MERCURY | 1.51 |
| MERCURY METAL | 0.00 |
| METHYL ETHYL KETONE | 0.00 |
| METHYL ISOBUTYL KETONE | 0.00 |
| METHYLENE CHLORIDE | 8.03 |
| NICKEL HYDROXIDE | 0.10 |
| NITRIC ACID | 1.21 |
| OIL | 0.00 |
| PCB | 130.13 |
| PHOSPHORIC ACID | 0.33 |
| PHTHALIC ACID BENZYL BUTYL EST | 0.00 |
| PHTHALIC ACID BIS(2-ETHYLHEXYL | 0.00 |
| PHTHALIC ACID, BIS(2-ETHYLHEXY | 0.05 |
| POTASSIUM CYANIDE | 0.21 |
| POTASSIUM FLUORIDE | 0.00 |
| POTASSIUM HYDROXIDE | 5.80 |
| RESIDUAL TANK FARM CORE SAMPLE | 0.80 |
| SELENIUM | 1.10 |
| SILVER | 0.00 |
| SODIUM | 0.13 |
| SODIUM CYANIDE | 0.21 |
| SODIUM FLUORIDE | 1.08 |
| SODIUM HYDROXIDE | 24.37 |
| SODIUM NITRATE | 173.00 |
| SODIUM SULFATE | 3.82 |
| STRIPCOAT | 34.08 |
| SULFAMIC ACID | 0.04 |
| SULFURIC ACID | 1.53 |
| THENOYL TRIFLUOROACETONE | 0.00 |
| TRI BUTYL PHOSPHATE | 49.30 |
| TRIBUTYL PHOSPHATE | 43.13 |
| TRIBUTYLPHOSPHATE | 0.07 |

MASS
(K/L)

| HAZARDOUS COMPONENT | MASS (K/L) |
|--------------------------------|------------|
| TRICHLOROETHENE | 3.28 |
| TRIISOCTYLAMINE | 0.001 |
| TRIMETHYLBENZENE | 1.01 |
| TRIOCTYLPHOSPHINE OXIDE | 0.001 |
| VANADIUM PENTOXIDE AQUEOUS SOL | 0.21 |
| XYLENE | 4.23 |



Lawrence Livermore National Laboratory

WASTE CERTIFICATION PROGRAM

WCP96-055

March 7, 1996

Jim Teak
Advanced Sciences Incorporated
6739 Academy Road NE
Albuquerque, NM 87109

Dear Jim,

This is in response to the CAO request concerning the presence of organic ligands (chelating agents) in TRU waste. I have consulted with Joe Magana, a chemist working in LLNL's Plutonium Facility. He tells me that there are no chelating agents in LLNL's TRU waste.

Sincerely yours,

A handwritten signature in cursive script that reads "Kem Hainebach".

Kem Hainebach, Ph. D.
Waste Certification Engineer
Environmental Protection Department

KH:lh
cc: Robert Fischer



APPENDIX B - 5

memorandum

Carlsbad Area Office
Carlsbad, New Mexico 88221

DATE: June 26, 1996
REPLY TO
ATTN OF: CAO:NTP:DW 96-1528
SUBJECT: Revision of Current Estimate of Complexing Agents in Transuranic Solidified Waste Forms Scheduled for Disposal in WIPP
TO: Dr. Les E. Shephard, Director, Nuclear Waste Management Programs Center, SNL

The mass of potential complexing agents in transuranic (TRU) waste generated at the Rocky Flats Environmental Technology Site (RFETS) and currently stored at RFETS and Idaho National Engineering Laboratory (INEL) was previously estimated in our March 29, 1996 memorandum, CAO:NTP:DW 96-1111, (Subject: "Current Estimate of Complexing Agents in Transuranic Solidified Waste Forms Scheduled for Disposal in WIPP"). Per our May 3, 1996 discussion, this information has been revised based on assumed or anticipated activities to be performed on the waste prior to final waste form generation.

The assumed or anticipated activities upon which these revisions were made are based on the preliminary submittal by INEL for Revision 3 of the TRU Waste Baseline Inventory Report (TWBIR). From this submittal, a very high percentage of INEL waste will be thermally treated and most complexing agents should therefore be destroyed by the treatment. A methodology is presented for estimating the amount of complexing agents that will be destroyed by the proposed thermal treatment at INEL. Using Ethylene Diamine Tetraacetic Acid (EDTA) as an example, the original estimate of 23 kg in RFETS waste (stored at INEL and RFETS) has been reduced to a recommended value of 5.9 kg with a high range estimate of 6.9 kg and a low range estimate of 2.9 kg. All other complexing agents reported from RFETS (including that in storage at INEL) in the previous letter should also be reduced by the same methodology.

The original inventory estimates provided in the above referenced letter were based on the following information contained in the original transmittal:

- Estimates provided by the TRU waste sites on the amount of anticipated complexing agents in TRU waste which are summarized in Tables 1, 2, and 3 from TRU waste site memoranda in Attachments 1 through 6.
- Volumes from Revision 2 of the Transuranic Waste Baseline Inventory Report (TWBIR) used in Table 4.

In Revision 2 of the TWBIR, the volumes used for waste stored at the INEL were assumed to be unprocessed through any type of treatment (i.e., thermal) that would destroy potential



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complexing agents. There was a small percentage of RFETS waste (~33%) stored at INEL scheduled for processing by thermal treatment in the TWBIR, Revision 2. Because these percentages of waste scheduled for thermal treatment were low, no credit was assumed in the original letter for the destruction of potential complexing agents occurring in RFETS TRU waste stored at INEL. This assumption also provided a conservative estimate of the potential complexing agents in TRU waste.

However, the INEL preliminary submittal received for Revision 3 of the TWBIR contains a much higher percentage of waste that will be processed thermally prior to shipment to WIPP for disposal. This much higher percentage of RFETS TRU waste that will be thermally processed will make a significant impact on the calculated amounts of potential complexing agents in TRU waste.

As stated in the original letter, most of the complexing agents were expected in the solidified waste forms, particularly in the solidified inorganic waste forms, since Sandia National Laboratory/New Mexico (SNL/NM) was only requesting information on "aqueous-soluble" complexing agents.

The RFETS estimate (Attachment 3 of the original letter) included all known sources (as of the time frame of the RFETS memo) of complexing agents regardless of what waste forms the chemicals occurred in the waste. Discussions with RFETS indicate the most likely occurrences of complexing agents in the waste would be:

Solidified Lab Waste> Solidified Inorganic Sludges> Debris Wastes

Based on the above relative occurrence for complexing agents, three estimates of the effects of extensive planned thermal treatment of RFETS waste at INEL can be made to modify the mass of chelating agents estimated in the original letter.

Tables AD-1, AD-2, and AD-3 summarize the calculations of the amount of decrease of complexing agents for RFETS in storage at INEL using EDTA as an example:

ASSUMPTIONS

- As stated in the original letter, RFETS was in production for 20 years (1971-1990) during which retrievably stored (post 1970) production waste would have been generated. Buried waste is not part of the WIPP inventory in the TWBIR.
- RFETS stopped shipments of waste to INEL initially in October 1988, then shipped additional quantities of waste from March to August 1989.

- Assuming that RFETS essentially caught up on their backlog of waste during the second shipping period and a modest lag of 2 months from date of closure to actual shipping, effectively provides the beginning of July 1989 as the date for TRU waste accumulation at RFETS.
- Therefore, it is assumed that 18 months (1.5 years) of production waste still exists at RFETS in storage and 18.5 years of post 1970 production waste is in storage at INEL.

CALCULATIONS

As shown in Table AD-1 (for Solidified Lab waste - Content Codes 004 and 113), using EDTA as an example:

- 347.7 m³ of CH-TRU waste is in storage at INEL.
- 280.1 m³ will be vitrified, and
- 67.5 m³ will be set aside for direct shipment to WIPP (including 0.33 m³ for macroencapsulation)
- Therefore, 80.58% will be vitrified
- RFETS provided an EDTA generation rate of 1.15 kg/year (Attachment 3 of Original Complexing Agent Memo)
- 1.15 kg/year x 18.5 years = 21.3 kg EDTA at INEL in storage
- 1.15 kg/year x 18.5 years generation in storage at INEL x 80.58% vitrification of waste = 17.1 kg of EDTA destroyed by vitrification
- Therefore, 4.1 kg of EDTA (21.3 minus 17.1 kg) will be left in the untreated waste at INEL scheduled for shipment and disposal in WIPP
- The total EDTA in RFETS waste (both in storage at INEL and RFETS) = 4.1 kg (untreated waste at INEL) + 1.15 kg/year x 1.5 years (in storage at RFETS) = 5.9 kg

Since Content Codes 004 and 113 are the waste forms most likely to have the complexing agents, 5.9 kg of EDTA is the RECOMMENDED VALUE for performance assessment.

Dr. Les E. Shephard

- 4 -

June 26, 1996

Using similar methodology in Tables AD-2 and AD-3, estimates of EDTA (after treatment at INEL) are 6.9 kg (assuming the distribution of treatment for all inorganic solidified waste forms - 75.68% treated) and 2.9 kg (assuming the distribution of treatment for all RFETS waste in storage at INEL - 94.44% treated).

The value of 5.9 kg of EDTA is the recommended value, since Content Codes 004 and 113 are the waste forms expected to contain the majority of the complexing agents. The other two values, 6.9 kg for inorganic solidified waste and 2.9 kg for all treated RFETS waste, should be considered lower and upper bounds on this analysis. In particular, the 2.9 kg is a nonconservative estimate because INEL is planning to vitrify almost all their debris waste, particularly the organic debris waste, which may contain some EDTA from wipeup of spills, but is expected to be the least contributor to the overall complexing agents in the waste.

All other complexing agents from RFETS should be reduced by the same percentages for those values reported in Table 3 of the original complexing agent letter.

If you have any questions concerning the attached information, please contact Mr. Russ Bisping or my staff at (505) 234-7446.



Don Watkins

Manager

National TRU Program

Attachment

cc w/attachment:

R. Bisping, CAO

S. Chakraborti, CTAC

J. Harvill, CTAC

P. Drez, DEA

R. Anderson, SNL

L. Sanchez, SNL

M. Chu, SNL

M. Marietta, SNL

TABLE AD-1

DETAILS OF EDTA CALCULATIONS
(BASIS: ROCKY FLATS WASTE AT INEL WITH IDCs 004 AND 113)

| | | | | | | UNPROCESSED WASTE VOLUMES (m ³) | | | | |
|---------|-------------|-----|-----------|--------|--------|---|----------------|-----------|-------|-------|
| FFCA_ID | WS_ID | CC | Total Vol | CH Vol | RH Vol | CH_Direct Ship | RH_Direct Ship | Vitrified | Amalg | Macro |
| IN-W157 | ID-RFO-004T | 4 | 226.8 | 226.8 | 0.0 | 54.3 | 0.0 | 172.3 | 0.0 | 0.2 |
| IN-W195 | ID-RFO-113 | 113 | 2.5 | 2.5 | 0.0 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 |
| IN-W221 | ID-RFO-113T | 113 | 14.4 | 14.4 | 0.0 | 12.9 | 0.0 | 1.5 | 0.0 | 0.0 |
| IN-W229 | ID-RFO-004 | 4 | 103.9 | 103.9 | 0.0 | 0.0 | 0.0 | 103.8 | 0.0 | 0.1 |
| | | | 347.7 | 347.7 | 0.0 | 67.2 | 0.0 | 280.1 | 0.0 | 0.3 |

TOTAL EDTA IN RF WASTE AT INEL —> 21.3 kg

(1.15 kg/yr for 18.5 years)

PERCENT VITRIFIED ———> 80.6%

AMOUNT VITRIFIED (80.58% of 21.3 kg)—> 17.1 kg

AMOUNT IN UNTREATED INEL WASTE——> 4.1 kg

TOTAL EDTA IN RF WASTE AT RF ———> 1.7 kg

(1.15 kg/yr for 1.5 years)

NEW EDTA ESTIMATE ———> 5.9 kg

TABLE AD-2

DETAILS OF REVISED EDTA CALCULATIONS
(BASIS: ALL ROCKY FLATS SLUDGES AT INEL)

| FFCA_ID | WS_ID | CC | Total Vol | CII Vol | RII Vol | UNPROCESSED WASTE VOLUMES (m ³) | | | | |
|---------|--------------|-----|-----------|---------|---------|---|-----------------|-----------|-------|-------|
| | | | | | | CII_Direct Ship | RII_Direct Ship | Vitrified | Amalg | Macro |
| IN-W216 | ID-RFO-001T | 1 | 2531.8 | 2531.8 | 0.0 | 775.3 | 0.0 | 1741.6 | 0.0 | 14.9 |
| IN-W190 | ID-RFO-001 | 1 | 58.9 | 58.9 | 0.0 | 0.0 | 0.0 | 58.6 | 0.0 | 0.3 |
| IN-W221 | ID-RFO-113T | 113 | 14.4 | 14.4 | 0.0 | 12.9 | 0.0 | 1.5 | 0.0 | 0.0 |
| IN-W195 | ID-RFO-113 | 113 | 2.5 | 2.5 | 0.0 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 |
| IN-W228 | ID-RFO-002T | 2 | 1296.8 | 1296.8 | 0.0 | 15.3 | 0.0 | 1260.9 | 12.4 | 8.2 |
| IN-W191 | ID-RFO-002 | 2 | 342.4 | 342.4 | 0.0 | 0.0 | 0.0 | 336.9 | 3.3 | 2.2 |
| IN-W157 | ID-RFO-004T | 4 | 226.8 | 226.8 | 0.0 | 54.3 | 0.0 | 172.3 | 0.0 | 0.2 |
| IN-W229 | ID-RFO-004 | 4 | 103.9 | 103.9 | 0.0 | 0.0 | 0.0 | 103.8 | 0.0 | 0.1 |
| IN-W218 | ID-RFO-007T | 7 | 461.5 | 461.5 | 0.0 | 461.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| IN-W192 | ID-RFO-007 | 7 | 464.3 | 464.3 | 0.0 | 0.0 | 0.0 | 464.3 | 0.0 | 0.0 |
| IN-X001 | ID-RFO-995N | 995 | 4.9 | 4.9 | 0.0 | 0.0 | 0.0 | 4.9 | 0.0 | 0.0 |
| IN-W375 | ID-RFO-995TN | 995 | 19.3 | 19.3 | 0.0 | 0.0 | 0.0 | 19.3 | 0.0 | 0.0 |
| IN-X002 | ID-RFO-995N | 995 | 68.8 | 68.8 | 0.0 | 0.0 | 0.0 | 68.8 | 0.0 | 0.0 |
| TOTALS | | | 5596.4 | 5596.4 | 0.0 | 1319.3 | 0.0 | 4235.5 | 15.7 | 25.9 |

TOTAL EDTA IN RF WASTE AT INEL ---->
(1.15 kg/yr for 18.5 years)

21.3 kg

PERCENT VITRIFIED ----->

75.7%

AMOUNT VITRIFIED (75.68% of 21.3 kg)---->

16.1 kg

AMOUNT IN UNTREATED INEL WASTE----->

5.2 kg

TOTAL EDTA IN RF WASTE AT RF ----->
(1.15 kg/yr for 1.5 years)

1.7 kg

NEW EDTA ESTIMATE ----->

6.9 kg

TABLE AD-3

DETAILS OF EDTA CALCULATIONS
(BASIS: ALL ROCKY FLATS WASTE AT INEL)

| FFCA_ID | WS_ID | CC | Total Vol | CH Vol | RH Vol | UNPROCESSED WASTE VOLUMES (m3) | | | | |
|---------|--------------|-----|-----------|--------|--------|--------------------------------|----------------|-----------|-------|-------|
| | | | | | | CH_Direct Ship | RH_Direct Ship | Vitrified | Amalg | Macro |
| IN-W307 | ID-REO-000 | 0 | 136.7 | 136.7 | 0.0 | 0.0 | 0.0 | 135.8 | 0.0 | 1.0 |
| IN-W308 | ID-REO-000T | 0 | 4139.7 | 4139.7 | 0.0 | 0.0 | 0.0 | 4110.7 | 0.0 | 29.0 |
| IN-W216 | ID-REO-001T | 1 | 2531.8 | 2531.8 | 0.0 | 775.3 | 0.0 | 1741.6 | 0.0 | 14.9 |
| IN-W190 | ID-REO-001 | 1 | 58.9 | 58.9 | 0.0 | 0.0 | 0.0 | 58.6 | 0.0 | 0.3 |
| IN-W167 | ID-REO-112T | 112 | 164.1 | 164.1 | 0.0 | 120.2 | 0.0 | 43.9 | 0.0 | 0.0 |
| IN-W168 | ID-REO-112 | 112 | 5.1 | 5.1 | 0.0 | 0.0 | 0.0 | 5.1 | 0.0 | 0.0 |
| IN-W221 | ID-REO-113T | 113 | 14.4 | 14.4 | 0.0 | 12.9 | 0.0 | 1.5 | 0.0 | 0.0 |
| IN-W195 | ID-REO-113 | 113 | 2.5 | 2.5 | 0.0 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 |
| IN-W166 | ID-REO-114T | 114 | 70.8 | 70.8 | 0.0 | 56.2 | 0.0 | 14.6 | 0.0 | 0.0 |
| IN-W165 | ID-REO-114 | 114 | 4.0 | 4.0 | 0.0 | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 |
| IN-W370 | ID-REO-115TN | 115 | 67.2 | 67.2 | 0.0 | 40.7 | 0.0 | 26.5 | 0.0 | 0.0 |
| IN-X006 | ID-REO-115N | 115 | 1.1 | 1.1 | 0.0 | 0.0 | 0.0 | 1.1 | 0.0 | 0.0 |
| IN-W186 | ID-REO-116T | 116 | 2696.6 | 2696.6 | 0.0 | 0.6 | 0.0 | 2696.0 | 0.0 | 0.0 |
| IN-W185 | ID-REO-116 | 116 | 371.1 | 371.1 | 0.0 | 0.0 | 0.0 | 371.1 | 0.0 | 0.0 |
| IN-W300 | ID-REO-117T | 117 | 1520.2 | 1520.2 | 0.0 | 14.8 | 0.0 | 1493.2 | 0.0 | 12.2 |
| IN-W299 | ID-REO-117 | 117 | 147.5 | 147.5 | 0.0 | 0.0 | 0.0 | 146.4 | 0.0 | 1.2 |
| IN-W240 | ID-REO-118T | 118 | 174.6 | 174.6 | 0.0 | 7.8 | 0.0 | 163.3 | 0.0 | 3.5 |
| IN-W241 | ID-REO-118 | 118 | 6.4 | 6.4 | 0.0 | 0.0 | 0.0 | 6.2 | 0.0 | 0.1 |
| IN-W206 | ID-REO-119T | 119 | 383.3 | 383.3 | 0.0 | 36.3 | 0.0 | 347.0 | 0.0 | 0.0 |
| IN-W232 | ID-REO-119 | 119 | 69.2 | 69.2 | 0.0 | 0.0 | 0.0 | 69.2 | 0.0 | 0.0 |
| IN-W230 | ID-REO-122T | 122 | 18.2 | 18.2 | 0.0 | 10.0 | 0.0 | 8.3 | 0.0 | 0.0 |
| IN-W231 | ID-REO-122 | 122 | 12.3 | 12.3 | 0.0 | 0.0 | 0.0 | 12.3 | 0.0 | 0.0 |
| IN-W250 | ID-REO-123T | 123 | 63.8 | 63.8 | 0.0 | 37.1 | 0.0 | 20.2 | 0.0 | 6.5 |
| IN-W251 | ID-REO-123 | 123 | 2.3 | 2.3 | 0.0 | 0.0 | 0.0 | 2.1 | 0.0 | 0.2 |
| IN-W312 | ID-REO-124TN | 124 | 3.2 | 3.2 | 0.0 | 2.3 | 0.0 | 0.8 | 0.0 | 0.0 |
| IN-W228 | ID-REO-002T | 2 | 1296.8 | 1296.8 | 0.0 | 15.3 | 0.0 | 1260.9 | 12.4 | 8.2 |
| IN-W191 | ID-REO-002 | 2 | 342.4 | 342.4 | 0.0 | 0.0 | 0.0 | 336.9 | 3.3 | 2.2 |
| IN-W282 | ID-REO-241 | 241 | 24.2 | 24.2 | 0.0 | 0.0 | 0.0 | 24.1 | 0.0 | 0.0 |
| IN-W283 | ID-REO-241T | 241 | 1.1 | 1.1 | 0.0 | 0.0 | 0.0 | 1.1 | 0.0 | 0.0 |
| IN-W196 | ID-REO-290 | 290 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| IN-W222 | ID-REO-292T | 292 | 110.5 | 110.5 | 0.0 | 42.2 | 0.0 | 68.3 | 0.0 | 0.0 |
| IN-W215 | ID-REO-292 | 292 | 4.9 | 4.9 | 0.0 | 0.0 | 0.0 | 4.9 | 0.0 | 0.0 |
| IN-W309 | ID-REO-003T | 3 | 569.4 | 569.4 | 0.0 | 160.7 | 0.0 | 408.7 | 0.0 | 0.0 |
| IN-W310 | ID-REO-003 | 3 | 1001.9 | 1001.9 | 0.0 | 0.0 | 0.0 | 1001.9 | 0.0 | 0.0 |
| IN-W276 | ID-REO-300T | 300 | 391.8 | 391.8 | 0.0 | 151.4 | 0.0 | 240.4 | 0.0 | 0.0 |
| IN-W274 | ID-REO-300 | 300 | 18.4 | 18.4 | 0.0 | 0.0 | 0.0 | 18.4 | 0.0 | 0.0 |
| IN-W275 | ID-REO-301T | 301 | 6.4 | 6.4 | 0.0 | 0.8 | 0.0 | 5.5 | 0.0 | 0.0 |

TABLE AD-3

DETAILS OF EDTA CALCULATIONS
(BASIS: ALL ROCKY FLATS WASTE AT INEL)

| FFCA_ID | WS_ID | CC | Total Vol | CH Vol | RH Vol | CH_Direct Ship | RH_Direct Ship | Vitrified | Amalg | Macro |
|---------|--------------|-----|-----------|--------|--------|----------------|----------------|-----------|-------|-------|
| IN-W273 | ID-REQ-301 | 301 | 1.3 | 1.3 | 0.0 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 |
| IN-W184 | ID-REQ-302 | 302 | 55.4 | 55.4 | 0.0 | 0.0 | 0.0 | 49.8 | 0.0 | 5.5 |
| IN-W225 | ID-REQ-302T | 302 | 22.2 | 22.2 | 0.0 | 0.0 | 0.0 | 20.0 | 0.0 | 2.2 |
| IN-W369 | ID-REQ-303TN | 303 | 12.3 | 12.3 | 0.0 | 9.1 | 0.0 | 3.2 | 0.0 | 0.0 |
| IN-W368 | ID-REQ-310TN | 310 | 3.4 | 3.4 | 0.0 | 0.2 | 0.0 | 3.2 | 0.0 | 0.0 |
| IN-X007 | ID-REQ-310N | 310 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| IN-W367 | ID-REQ-311TN | 311 | 4.4 | 4.4 | 0.0 | 0.0 | 0.0 | 4.4 | 0.0 | 0.0 |
| IN-W272 | ID-REQ-312T | 312 | 1.9 | 1.9 | 0.0 | 1.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| IN-W298 | ID-REQ-320T | 320 | 74.6 | 74.6 | 0.0 | 21.4 | 0.0 | 51.7 | 0.0 | 1.5 |
| IN-W297 | ID-REQ-320 | 320 | 28.6 | 28.6 | 0.0 | 0.0 | 0.0 | 28.0 | 0.0 | 0.6 |
| IN-W207 | ID-REQ-328T | 328 | 1.5 | 1.5 | 0.0 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 |
| IN-W233 | ID-REQ-328 | 328 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| IN-W169 | ID-REQ-330T | 330 | 5774.6 | 5774.6 | 0.0 | 18.7 | 0.0 | 5756.0 | 0.0 | 0.0 |
| IN-W158 | ID-REQ-330 | 330 | 3150.6 | 3150.6 | 0.0 | 0.0 | 0.0 | 3150.6 | 0.0 | 0.0 |
| IN-W208 | ID-REQ-335T | 335 | 26.2 | 26.2 | 0.0 | 2.5 | 0.0 | 23.7 | 0.0 | 0.0 |
| IN-W234 | ID-REQ-335 | 335 | 16.5 | 16.5 | 0.0 | 0.0 | 0.0 | 16.5 | 0.0 | 0.0 |
| IN-W197 | ID-REQ-336T | 336 | 778.3 | 778.3 | 0.0 | 20.4 | 0.0 | 758.0 | 0.0 | 0.0 |
| IN-W160 | ID-REQ-336 | 336 | 1452.4 | 1452.4 | 0.0 | 0.0 | 0.0 | 1452.4 | 0.0 | 0.0 |
| IN-W198 | ID-REQ-337T | 337 | 170.4 | 170.4 | 0.0 | 37.5 | 0.0 | 132.9 | 0.0 | 0.0 |
| IN-W217 | ID-REQ-337 | 337 | 352.9 | 352.9 | 0.0 | 0.0 | 0.0 | 352.9 | 0.0 | 0.0 |
| IN-W209 | ID-REQ-338T | 338 | 60.2 | 60.2 | 0.0 | 3.4 | 0.0 | 56.8 | 0.0 | 0.0 |
| IN-W235 | ID-REQ-338 | 338 | 240.7 | 240.7 | 0.0 | 0.0 | 0.0 | 240.7 | 0.0 | 0.0 |
| IN-W252 | ID-REQ-339T | 339 | 160.2 | 160.2 | 0.0 | 13.4 | 0.0 | 0.0 | 0.0 | 146.9 |
| IN-W253 | ID-REQ-339 | 339 | 4.9 | 4.9 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 4.6 |
| IN-W210 | ID-REQ-360T | 360 | 3.4 | 3.4 | 0.0 | 0.0 | 0.0 | 3.4 | 0.0 | 0.0 |
| IN-W237 | ID-REQ-360 | 360 | 50.4 | 50.4 | 0.0 | 0.0 | 0.0 | 50.4 | 0.0 | 0.0 |
| IN-W373 | ID-REQ-361TN | 361 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| IN-W366 | ID-REQ-370TN | 370 | 2.5 | 2.5 | 0.0 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 |
| IN-X008 | ID-REQ-370N | 370 | 4.9 | 4.9 | 0.0 | 0.0 | 0.0 | 4.9 | 0.0 | 0.0 |
| IN-W161 | ID-REQ-371T | 371 | 111.4 | 111.4 | 0.0 | 16.7 | 0.0 | 94.6 | 0.0 | 0.0 |
| IN-W162 | ID-REQ-371 | 371 | 183.5 | 183.5 | 0.0 | 0.0 | 0.0 | 183.5 | 0.0 | 0.0 |
| IN-W266 | ID-REQ-372N | 372 | 0.8 | 0.8 | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 |
| IN-W267 | ID-REQ-372TN | 372 | 3.0 | 3.0 | 0.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 |
| IN-W265 | ID-REQ-374T | 374 | 53.2 | 53.2 | 0.0 | 9.5 | 0.0 | 43.6 | 0.0 | 0.0 |
| IN-W264 | ID-REQ-374 | 374 | 368.0 | 368.0 | 0.0 | 0.0 | 0.0 | 368.0 | 0.0 | 0.0 |
| IN-W163 | ID-REQ-375T | 375 | 0.8 | 0.8 | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 |
| IN-W223 | ID-REQ-375 | 375 | 3.2 | 3.2 | 0.0 | 0.0 | 0.0 | 3.2 | 0.0 | 0.0 |
| IN-W211 | ID-REQ-376T | 376 | 460.2 | 460.2 | 0.0 | 215.4 | 0.0 | 244.8 | 0.0 | 0.0 |
| IN-W238 | ID-REQ-376 | 376 | 94.7 | 94.7 | 0.0 | 0.0 | 0.0 | 94.7 | 0.0 | 0.0 |
| IN-W365 | ID-REQ-391TN | 391 | 4.7 | 4.7 | 0.0 | 0.0 | 0.0 | 4.7 | 0.0 | 0.0 |
| IN-W364 | ID-REQ-392TN | 392 | 1.5 | 1.5 | 0.0 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 |

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TABLE AD-3

DETAILS OF EDTA CALCULATIONS
(BASIS: ALL ROCKY FLATS WASTE AT INEL)

| FFCA_ID | WS_ID | CC | Total Vol | CII Vol | RII Vol | CII_Direct Ship | RII_Direct Ship | Vitrified | Amalg | Macro |
|---------|--------------|-----|-----------|---------|---------|-----------------|-----------------|-----------|-------|-------|
| IN-W348 | ID-RFO-393TN | 393 | 10.0 | 10.0 | 0.0 | 3.8 | 0.0 | 6.1 | 0.0 | 0.0 |
| IN-W157 | ID-RFO-004T | 4 | 226.8 | 226.8 | 0.0 | 54.3 | 0.0 | 172.3 | 0.0 | 0.2 |
| IN-W229 | ID-RFO-004 | 4 | 103.9 | 103.9 | 0.0 | 0.0 | 0.0 | 103.8 | 0.0 | 0.1 |
| IN-W311 | ID-RFO-409T | 409 | 6.6 | 6.6 | 0.0 | 2.3 | 0.0 | 4.2 | 0.0 | 0.0 |
| IN-W356 | ID-RFO-410TN | 410 | 4.7 | 4.7 | 0.0 | 0.0 | 0.0 | 4.7 | 0.0 | 0.0 |
| IN-W355 | ID-RFO-411TN | 411 | 1.3 | 1.3 | 0.0 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 |
| IN-W354 | ID-RFO-412TN | 412 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| IN-W314 | ID-RFO-414T | 414 | 1.1 | 1.1 | 0.0 | 0.0 | 0.0 | 1.1 | 0.0 | 0.0 |
| IN-W371 | ID-RFO-416TN | 416 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| IN-W363 | ID-RFO-420TN | 420 | 2.3 | 2.3 | 0.0 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 |
| IN-W362 | ID-RFO-421TN | 421 | 21.4 | 21.4 | 0.0 | 0.0 | 0.0 | 21.4 | 0.0 | 0.0 |
| IN-W361 | ID-RFO-422TN | 422 | 5.1 | 5.1 | 0.0 | 0.0 | 0.0 | 5.1 | 0.0 | 0.0 |
| IN-W357 | ID-RFO-425TN | 425 | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| IN-X009 | ID-RFO-425N | 425 | 1.3 | 1.3 | 0.0 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 |
| IN-W320 | ID-RFO-430 | 430 | 1.9 | 1.9 | 0.0 | 0.0 | 0.0 | 1.9 | 0.0 | 0.0 |
| IN-W321 | ID-RFO-430T | 430 | 4.2 | 4.2 | 0.0 | 0.0 | 0.0 | 4.2 | 0.0 | 0.0 |
| IN-W318 | ID-RFO-431 | 431 | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| IN-W319 | ID-RFO-431T | 431 | 0.8 | 0.8 | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 |
| IN-W317 | ID-RFO-432T | 432 | 51.5 | 51.5 | 0.0 | 12.9 | 0.0 | 38.6 | 0.0 | 0.0 |
| IN-W316 | ID-RFO-432 | 432 | 8.9 | 8.9 | 0.0 | 0.0 | 0.0 | 8.9 | 0.0 | 0.0 |
| IN-W243 | ID-RFO-440T | 440 | 247.7 | 247.7 | 0.0 | 56.2 | 0.0 | 191.5 | 0.0 | 0.0 |
| IN-W242 | ID-RFO-440 | 440 | 95.4 | 95.4 | 0.0 | 0.0 | 0.0 | 95.4 | 0.0 | 0.0 |
| IN-W244 | ID-RFO-441 | 441 | 164.7 | 164.7 | 0.0 | 0.0 | 0.0 | 164.7 | 0.0 | 0.0 |
| IN-W245 | ID-RFO-441T | 441 | 169.0 | 169.0 | 0.0 | 0.0 | 0.0 | 169.0 | 0.0 | 0.0 |
| IN-W247 | ID-RFO-442T | 442 | 199.5 | 199.5 | 0.0 | 79.3 | 0.0 | 120.2 | 0.0 | 0.0 |
| IN-W248 | ID-RFO-442 | 442 | 138.4 | 138.4 | 0.0 | 0.0 | 0.0 | 138.4 | 0.0 | 0.0 |
| IN-W199 | ID-RFO-460T | 460 | 1.3 | 1.3 | 0.0 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 |
| IN-W254 | ID-RFO-463T | 463 | 10.2 | 10.2 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 9.5 |
| IN-W255 | ID-RFO-463 | 463 | 1.1 | 1.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 1.0 |
| IN-W183 | ID-RFO-464 | 464 | 3.8 | 3.8 | 0.0 | 0.0 | 0.0 | 3.1 | 0.0 | 0.8 |
| IN-W189 | ID-RFO-464T | 464 | 6.1 | 6.1 | 0.0 | 0.0 | 0.0 | 4.9 | 0.0 | 1.2 |
| IN-W296 | ID-RFO-480T | 480 | 5243.4 | 5243.4 | 0.0 | 85.2 | 0.0 | 5132.0 | 0.0 | 26.2 |
| IN-W295 | ID-RFO-480 | 480 | 6688.0 | 6688.0 | 0.0 | 0.0 | 0.0 | 6654.6 | 0.0 | 33.4 |
| IN-W294 | ID-RFO-481T | 481 | 443.2 | 443.2 | 0.0 | 11.4 | 0.0 | 428.3 | 0.0 | 3.5 |
| IN-W293 | ID-RFO-481 | 481 | 164.3 | 164.3 | 0.0 | 0.0 | 0.0 | 163.1 | 0.0 | 1.3 |
| IN-W212 | ID-RFO-490T | 490 | 2512.4 | 2512.4 | 0.0 | 3.4 | 0.0 | 2509.0 | 0.0 | 0.0 |
| IN-W239 | ID-RFO-490 | 490 | 873.4 | 873.4 | 0.0 | 0.0 | 0.0 | 873.4 | 0.0 | 0.0 |
| IN-W313 | ID-RFO-005 | 5 | 13.6 | 13.6 | 0.0 | 0.0 | 0.0 | 13.6 | 0.0 | 0.0 |
| IN-W315 | ID-RFO-005T | 5 | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 |
| IN-W218 | ID-RFO-007T | 7 | 461.5 | 461.5 | 0.0 | 461.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| IN-W192 | ID-RFO-007 | 7 | 464.3 | 464.3 | 0.0 | 0.0 | 0.0 | 464.3 | 0.0 | 0.0 |

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TABLE AD-3

DETAILS OF EDTA CALCULATIONS
(BASIS: ALL ROCKY FLATS WASTE AT INEL)

| FFCA_ID | WS_ID | CC | Total Vol | CH Vol | RH Vol | CH_Direct Ship | RH_Direct Ship | Vitrified | Amalg | Macro |
|---------|--------------|------|-----------|---------|--------|----------------|----------------|-----------|-------|-------|
| IN-W164 | ID-RFO-700T | 700 | 1.9 | 1.9 | 0.0 | 0.6 | 0.0 | 1.3 | 0.0 | 0.0 |
| IN-W270 | ID-RFO-090 | 90 | 28.6 | 28.6 | 0.0 | 0.0 | 0.0 | 28.6 | 0.0 | 0.0 |
| IN-W205 | ID-RFO-900T | 900 | 0.8 | 0.8 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.4 |
| IN-W227 | ID-RFO-900 | 900 | 92.4 | 92.4 | 0.0 | 0.0 | 0.0 | 92.4 | 0.0 | 0.0 |
| IN-X001 | ID-RFO-025N | 95 | 4.9 | 4.9 | 0.0 | 0.0 | 0.0 | 4.9 | 0.0 | 0.0 |
| IN-W277 | ID-RFO-950 | 950 | 1065.0 | 1065.0 | 0.0 | 0.0 | 0.0 | 1006.6 | 0.0 | 58.4 |
| IN-W278 | ID-RFO-950T | 950 | 14.0 | 14.0 | 0.0 | 0.0 | 0.0 | 13.2 | 0.0 | 0.8 |
| IN-W374 | ID-RFO-960TN | 960 | 9.8 | 9.8 | 0.0 | 0.2 | 0.0 | 9.5 | 0.0 | 0.0 |
| IN-X003 | ID-RFO-960N | 960 | 681.4 | 681.4 | 0.0 | 0.0 | 0.0 | 681.4 | 0.0 | 0.0 |
| IN-W202 | ID-RFO-970T | 970 | 109.9 | 109.9 | 0.0 | 0.0 | 0.0 | 109.9 | 0.0 | 0.0 |
| IN-W224 | ID-RFO-970 | 970 | 91.3 | 91.3 | 0.0 | 0.0 | 0.0 | 91.3 | 0.0 | 0.0 |
| IN-W180 | ID-RFO-976 | 976 | 63.8 | 63.8 | 0.0 | 0.0 | 0.0 | 63.8 | 0.0 | 0.0 |
| IN-W188 | ID-RFO-976T | 976 | 1.1 | 1.1 | 0.0 | 0.0 | 0.0 | 1.1 | 0.0 | 0.0 |
| IN-W181 | ID-RFO-978T | 978 | 9.5 | 9.5 | 0.0 | 0.0 | 0.0 | 9.5 | 0.0 | 0.0 |
| IN-W182 | ID-RFO-978 | 978 | 25.4 | 25.4 | 0.0 | 0.0 | 0.0 | 25.4 | 0.0 | 0.0 |
| IN-W187 | ID-RFO-980T | 980 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| IN-W261 | ID-RFO-990 | 990 | 99.6 | 99.6 | 0.0 | 0.0 | 0.0 | 99.6 | 0.0 | 0.0 |
| IN-W375 | ID-RFO-995TN | 995 | 19.3 | 19.3 | 0.0 | 0.0 | 0.0 | 19.3 | 0.0 | 0.0 |
| IN-X002 | ID-RFO-995N | 995 | 68.8 | 68.8 | 0.0 | 0.0 | 0.0 | 68.8 | 0.0 | 0.0 |
| IN-W306 | ID-RFO-9999T | 9999 | 4492.5 | 4489.3 | 3.2 | 0.0 | 3.2 | 4354.5 | 0.0 | 134.8 |
| IN-W352 | ID-RFO-9999 | 9999 | 2993.7 | 2991.5 | 2.1 | 0.0 | 2.1 | 2901.7 | 0.0 | 89.8 |
| TOTALS | | | 58402.2 | 58396.9 | 5.3 | 2626.5 | 5.3 | 55152.7 | 15.7 | 601.9 |

TOTAL EDTA IN RF WASTE AT INEL -->

21.3 kg

(1.15 kg/yr for 18.5 years)

PERCENT VITRIFIED -->

94.4%

AMOUNT VITRIFIED (94.44% of 21.3 kg)-->

20.1 kg

AMOUNT IN UNTREATED INEL WASTE-->

1.2 kg

TOTAL EDTA IN RF WASTE AT RF -->

1.7 kg

(1.15 kg/yr for 1.5 years)

NEW EDTA ESTIMATE -->

2.9 kg

BS-10

APPENDIX B - 6

memorandum

Carlsbad Area Office
Carlsbad, New Mexico 88221

DATE: FEB 20 1996

REPLY TO
ATTN OF: NTP:DW:96-0655

SUBJECT: Preliminary Estimate for SNL/NM Performance Assessment Calculations of Nitrate, Sulfate, and Phosphate Content in Transuranic Solidified Wastes Destined for Disposal in WIPP

TO: Dr. Les Shephard, SNL/NM

Attached is a copy of the report containing the preliminary estimates for the nitrate, sulfate, and phosphate contents in solidified transuranic (TRU) wastes destined for the Waste Isolation Pilot Plant (WIPP). This information was requested by your staff from the Transuranic (TRU) Waste Baseline Inventory Report (TWBIR) team in support of the Performance Assessment efforts.

Briefly, the enclosed document provides estimates of the average density and total mass of nitrate and sulfate in TRU waste to be disposed of at the WIPP. These values have been estimated based on data obtained from the TRU waste generator/storage sites during the TWBIR preparation process. From these data, the average densities scaled over the entire WIPP disposal inventory are 9.2 kg/m^3 for nitrate and 3.6 kg/m^3 for sulfate. The total masses scaled over the entire WIPP disposal inventory are $1.6\text{E}+06 \text{ kg}$ for nitrate and $6.3\text{E}+05 \text{ kg}$ for sulfate. These densities and masses are for combined CH and RH TRU waste inventories. No value for phosphate has been proposed due to the lack of sufficient information. Trace quantities of inorganic phosphate might be expected in some of the sludges and solidification agents, but no supporting analytical data are available to support a specific value. This is discussed in the enclosed report.

If you have any questions concerning the attached information, please contact Mr. Russ Bisping of my staff at (505) 234-7446.



Don Watkins
Manager
National TRU Program

Attachment



L. Shephard

2

FEB 20 1996

cc w/enclosure:

J. Mewhinney, CAO

R. Bisping, CAO

P. Drez, CTAC

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M. Chu, SNL

M. Marietta, SNL

Preliminary Estimates of Nitrate, Sulfate, and Phosphate Content in Transuranic Solidified Wastes

I. INTRODUCTION

This report provides preliminary estimates of the amount of nitrate, sulfate, and phosphate expected to be in the transuranic (TRU) inventory that will be transported to and disposal of at the Waste Isolation Pilot Plant (WIPP) (Appendix B: DOE, 1995). Tables 1 and 2 of this report provide the volumetric basis for the nitrate and sulphate estimates, and Tables 3, 4, and 5 provide the calculational methodology. No quantifiable sources of phosphate have been identified in the Inorganic Solidified final waste forms at present. Trace quantities might be expected in some of the sludges and solidification agents, but no data currently exist to support this.

II. BACKGROUND

These **PRELIMINARY** estimates are made based on the following:

- Values presented are those expected for the final waste forms to be disposed of at WIPP.
- Information has been requested from sites based on Solidified Inorganic and Solidified Organic waste forms only, and is the best available data from the TRU waste generator/storage sites:
 - The main source of nitrate is anticipated to be from the Solidified Inorganic waste forms, which in most cases, are sludges produced from the neutralization/solidification of nitric acid-based solutions used at the TRU waste generator/storage sites. Nitrates are very soluble in aqueous solutions and generally do not produce precipitates in the sludges. The nitrates are generally thought to be present as ions sorbed on precipitates or as interstitial solution, trapped in the precipitated sludges prior to solidification.
 - Minor amounts of nitrate, as evaporites, are anticipated in the debris waste forms that will be acceptable for WIPP disposal, but insufficient data are available to estimate the amount of such TRU waste at this time.
 - The main sources of sulfates are anticipated to be: 1) chemicals (e.g. iron sulfates) added to the inorganic solutions at the time of flocculation and precipitation of sludges, and 2) the use of Envirostone [a gypsum (CaSO_4) based solidification material] for solidification of inorganic and/or organic solutions/sludges at some TRU waste generator/storage sites.

No quantifiable sources of phosphate have been identified in the Solidified Inorganic final waste forms at present. Trace quantities might be expected in some of the sludges and solidification agents, but no supporting analytical data are available. The quantities of inorganic phosphate are anticipated to be low in inorganic sludges based on process histories at TRU waste sites.

Analytical data in Attachment 2 provide only "less than 0.0025" weight percent values for phosphate, which are similar to the 0.001 weight percent estimate provided by LANL in Attachment 1. These values are too low to make any reliable estimate of phosphate in TRU waste, but indicate that the quantities will be very small, compared with the nitrate and sulfate values reported. The phosphate value of "40%" reported on page A2-7 is an analytical error. Based on process knowledge and the lack of cations to support such a large value of phosphate in that particular analysis, no such value is possible.

III. GENERAL VOLUME CALCULATIONS

A. Nitrate

1. Nitrate Assumptions

The amount of nitrate is estimated on the basis of the volumes of Solidified Inorganics, which are calculated as explained below:

- Table 1 lists (in Column 2) the final waste form volumes of Solidified Inorganics for Contact-Handled (CH) TRU and Remote Handled (RH) TRU from Figures 3-9 and 3-16 of Revision 2 of the TWBIR (DOE, 1995) for the anticipated WIPP inventory (stored plus projected volumes until 2022).
- Footnotes in Columns 3 and 4 indicate why certain volumes of waste have been eliminated from further consideration in the calculations:
 - Footnote 1 eliminates those volumes of chemically precipitated Solidified Inorganics for which no nitrate estimates in the waste are available. An estimate of the nitrate contribution from these Solidified Inorganics will be accounted for in the scaling process.
 - Footnote 2 eliminates the volume of Solidified Inorganics from SRS from further consideration because it is a "vitrified" waste form which should not contain any significant amount of nitrates due to the thermal treatment proposed for that waste form.

- Footnote 3 eliminates from further consideration those volumes of Solidified Inorganics which represent non-precipitated particulates (e.g., incinerator ash, graphite fines, etc.) which have been cemented to meet the WIPP WAC; nitrates are not expected to be present in these particulates.
- Rocky Flats Environmental Technology Site (RFETS) and Los Alamos National Laboratory (LANL) have provided analytical data/estimates for nitrate in Solidified Inorganics. The RFETS data has been used also for the RFETS waste stored at INEL.

2. Nitrate Mass Calculations

Table 3 contains in Column 1 a list of those waste streams that contain the volume of waste from each TRU waste generator/storage site listed in Column 4 of Table 1. The additional data provided are:

- Column 2 lists the Item Description Codes (IDCs) for waste streams produced at RFETS and/or stored at INEL. The RF111 designation is for Content Code 111 from RFETS, where the IDC is not specified.
- Column 3 lists the stored + projected volume for each waste stream.
- Column 4 lists the sum of the waste material parameters (WMP) for each waste stream from the individual Waste Stream Profiles in Revision 2 of the TWBIR. Exceptions to this rule are listed in footnotes in Table 3.
- Column 5 lists the mass of the waste for each waste stream which is the product of multiplying Columns 3 and 4.
- Column 6 lists the values of nitrate used for each waste stream. The sources of these values are:
 - For RFETS, the nitrate values are from Appendix I of Revision 2 of the TWBIR. The 8% values for IDC 001 has also been applied to IDCs 002 and 007 at both RFETS and INEL. All these IDCs represent "older" methods of solidification where the sludges contain portland cement mainly as a sorbent interlayered with sludge which did not contain diatomaceous earth (see Clements, 1982 for drawings).

The 4% value listed in Appendix I of the TWBIR for IDC 807 represents a "newer" method of solidification where diatomaceous earth is used as a vacuum filtration agent and portland cement is mixed with the resulting sludge to form a "monolithic" solidified final waste form. The dilution with diatomaceous earth and additional portland cement lowers the overall nitrate value of the final waste form.

- For waste stream IN-W315.601, Clements (1982) indicates that the waste stream is made up of approximately 60% NaNO_3 and 30% KNO_3 (assumed weight percents). This calculates as 62% nitrate.
- Attachment 1 represents a memo from LANL that provides estimates for nitrates in the waste streams. Note that the Envirostone process only accounts for a small percentage of stored volume for 3 of the waste streams. The values quoted in Column 6 are based on the small percentage of Envirostone solidification agent in the overall waste streams.
- Column 7 represents the mass of nitrates in kg which is the product of multiplying Columns 5 and 6.

B. Sulfate

1. Sulfate Assumptions

- To determine the amount of solidified wastes that need to be considered for calculating the sulfate content of the WIPP inventory (Table 2), the volume of Solidified Organics must be added to the volume of Solidified Inorganics from Table 1:
 - The Solidified Organics from Figures 3-10 and 3-17 of Revision 2 of the TWBIR (DOE, 1995) have been added to Table 1 (above) to produce Table 2
 - LANL has used an Envirostone (gypsum-based) process for solidification of inorganic sludges in the past (approximately 9% of 4888 m³ in storage at LANL) but plan to eliminate the process in the future and only use portland-based cement for solidification (as was used in the past prior to usage of the Envirostone)

- Since the mid 1980's, RFETS has used an Envirostone solidification process for their organic sludges. Therefore, some of their waste in storage and projected contain large amounts of sulfate, as well as some Solidified Organics in storage at INEL.
- LLNL is the only other TRU waste site known to be using Envirostone for the solidification of organic liquids/sludges (approximately 7 m³ stored/projected).

2. Sulfate Mass Calculations

The sulfate calculations presents in Table 4 follow the same format as the nitrate calculations in Table 3. The origin of the values used for sulfate in the RFETS, INEL, LLNL, and LANL waste streams are summarized below:

- **RFETS/INEL**

- The 0.11 % sulfate value is an average of the three analyses marked "7412 Sludge" in Attachment 2 which are applied to IDCs 001 and 002, and at half that value for IDCs 800 and 803 (as explained in the nitrate section).
- The sulfate value of 0.02 % is derived from the Attachment 2 analysis marked "374 Waste Sludge - Dried Sludge". This value is used for IDC 007 and at half value for IDC 807.
- The sulfate value (25.1 %) for the Envirostone solidification of organic sludges (IDC 801) is derived from an average value in Attachment 3, which represents guidelines for mixing constituents together for IDC 801 and IDC 700 (at INEL only in storage).

- **LANL**

- The values for sulfate quoted in Column 7 are derived from data provided in Attachment 1. As with the nitrate calculations, the percentage of waste in each waste stream solidified by Envirostone versus portland cement is used to calculate the overall sulfate value for each waste stream.

- **LLNL**

- No value for sulfate was requested from LLNL for their one Solidified Organic waste stream. The same value for Envirostone-solidified waste at RFETS (25.1 %) was assumed for the LLNL waste stream.

IV. SUMMARY CALCULATIONS

Table 5 presents the summary calculations for determining the density (kg/m^3) of nitrate and sulfate in the overall WIPP inventory and scaling of the density to take into account those chemically precipitated waste streams for which data was not available. SNL/NM should use the scaled densities for their calculations. The last column in Table 5 provides the estimated mass of nitrate and sulfate if the design capacity of WIPP for CH-TRU and RH-TRU are fully utilized based on the scaled densities for nitrate and sulfate.

V. REFERENCES

Clements, 1982, "Content Code Assessments for INEL Contact-Handled Stored Transuranic Wastes," WM-F1-82-021, Idaho Falls, Idaho.

U. S. Department of Energy, 1995, "Transuranic Waste Baseline Inventory Report (Revision 2)," DOE/CAO-95-1121, Carlsbad, New Mexico.

**TABLE 1. TRU VOLUMES FOR NITRATE CALCULATIONS
(SOLIDIFIED INORGANICS ONLY)**

| TRU WASTE SITE | TOTAL VOLUME (STORED + PROJECTED) (m ³) | VOLUMES WITH NITRATE DATA OR WITH PARTICULATES (m ³) | VOLUMES OF SLUDGES WITH NITRATE DATA (m ³) |
|----------------|---|---|---|
| Hanford (CH) | 23.39 | (TO BE SCALED) ¹ | (TO BE SCALED) ¹ |
| ANL-E (CH) | 5.20 | (TO BE SCALED) ¹ | (TO BE SCALED) ¹ |
| NTS (CH) | 5.67 | (TO BE SCALED) ¹ | (TO BE SCALED) ¹ |
| SRS (CH) | 1369.8 | 1369.8 | ² |
| RFETS (CH) | 1423.01 | 1389.52 | 229.63 ³ |
| INEL (CH) | 4344.44 | 3900.39 | 3598.84 ³ |
| Mound (CH) | 6.03 | (TO BE SCALED) ¹ | (TO BE SCALED) ¹ |
| LANL(CH) | 6922.02 | 6922.02 | 6922.02 |
| AL (CH) | 0.42 | (TO BE SCALED) ¹ | (TO BE SCALED) ¹ |
| LLNL (CH) | 20.18 | (TO BE SCALED) ¹ | (TO BE SCALED) ¹ |
| CH TOTAL | 14120.15 | 13581.73 | 10750.49 |
| | | | |
| ORNL (RH) | 1243.33 | (TO BE SCALED) ¹ | (TO BE SCALED) ¹ |
| INEL (RH) | 65.27 | 65.27 | 65.27 |
| ANL-E (RH) | 30.26 | (TO BE SCALED) ¹ | (TO BE SCALED) ¹ |
| RH TOTAL | 1338.86 | 65.27 | 65.27 |
| | | | |
| TRU TOTAL | 15459.01 | 13647.0 | 10815.76 |

¹ Eliminates those volumes of chemically precipitated solidified inorganics for which no nitrate estimates in the waste are available. An estimate of the nitrate contribution from these solidified inorganics will be accounted for in the scaling process.

² Eliminates the volume of Solidified Inorganics from SRS from further consideration because it is a "vitrified" waste form which should not contain any significant amount of nitrates due to the thermal treatment proposed for that waste form.

³ Eliminates from further consideration those volumes of Solidified Inorganics which represent non-precipitated particulates (e.g., incinerator ash, graphite fines, etc.) which have been cemented to meet the WIPP WAC and nitrates are not expected to be present in the particulates.

TABLE 2. TRU VOLUMES FOR SULFATE CALCULATIONS

| TRU WASTE SITE | FINAL WASTE FORM | TOTAL VOLUME (m ³) | VOLUME WITH SULFATE DATA (m ³) |
|----------------|------------------|--------------------------------|--|
| Hanford (CH) | Solidif. Inorg. | 23.39 | (TO BE SCALED) ¹ |
| ANL-E (CH) | Solidif. Inorg. | 5.20 | (TO BE SCALED) ¹ |
| NTS (CH) | Solidif. Inorg. | 5.67 | (TO BE SCALED) ¹ |
| SRS (CH) | Solidif. Inorg. | 1369.8 | (TO BE SCALED) ¹ |
| RFETS (CH) | Solidif. Inorg. | 1423.01 | 229.63 |
| INEL (CH) | Solidif. Inorg. | 4344.44 | 3598.42 |
| Mound (CH) | Solidif. Inorg. | 6.03 | (T BE SCALED) ¹ |
| LANL (CH) | Solidif. Inorg. | 6922.02 | 6922.02 |
| AL (CH) | Solidif. Inorg. | 0.42 | (TO BE SCALED) ¹ |
| LLNL (CH) | Solidif. Inorg. | 20.18 | (TO BE SCALED) ¹ |
| RFETS (CH) | Solidif. Org. | 140.93 | 108.99 |
| Hanford (CH) | Solidif. Org. | 76.13 | (TO BE SCALED) ¹ |
| LANL (CH) | Solidif. Org. | 30.58 | (TO BE SCALED) ¹ |
| INEL (CH) | Solidif. Org. | 789.67 | 2.55 |
| ANL-E (CH) | Solidif. Org. | 0.21 | (TO BE SCALED) ¹ |
| LLNL (CH) | Solidif. Org. | 6.86 | 6.86 |
| CH TOTAL | | 15164.53 | 10868.93 |
| | | | |
| ORNL (RH) | Solidif. Inorg. | 1243.33 | (TO BE SCALED) ¹ |
| INEL (RH) | Solidif. Inorg. | 65.27 | 65.27 |
| ANL-E (RH) | Solidif. Inorg. | 30.26 | (TO BE SCALED) ¹ |
| INEL (RH) | Solidif. Org. | 3.56 | (TO BE SCALED) ¹ |
| RH TOTAL | | 1342.42 | 65.27 |
| | | | |
| TRU TOTAL | | 16506.95 | 10933.74 |

¹ No sulfate data available from these sites for any waste streams.

TABLE 3 : NITRATE CALCULATION

| Waste Stream | IDs | Volume (m3) | Sum WMP (kg/m3) | Mass Waste (kg) | % Nitrate (weight%) | Nitrate (kg) |
|--------------------|-------------|-----------------|--------------------|--------------------|------------------------|------------------|
| RF-MT0001 | 001 | 3.74 | 781.9 | 2924.31 | 8 | 233.94 |
| RF-MT0800 | 800 | 104.42 | 775.2 | 80946.38 | 4 | 3237.86 |
| RF-MT0803 | 803 | 4.99 | 635.2 | 3169.65 | 4 | 126.79 |
| RF-MT0807 | 807 | 115.02 | 819.6 | 94270.39 | 4 | 3770.82 |
| RF-T010 | 800/803/807 | 0.62 | 796.1 | 493.58 | 4 | 19.74 |
| TOTAL RFETS | | 228.79 | | 181804.31 | | 7389.14 |
| IN-W216.875 | 001/002 | 1478.88 | 819.6 | 1212090.05 | 8 | 96967.20 |
| IN-W216.877 | 001/002 | 43.91 | 571.4 | 25090.17 | 8 | 2007.21 |
| IN-W216.98 | 001/002 | 555.65 | 726.6 | 403735.29 | 8 | 32298.82 |
| IN-W218.909* | 007 | 101.91 | 544.3 | 55469.61 | 8 | 4437.57 |
| IN-W220.114 | RF111 | 122.80 | 725.6 | 89103.68 | 4 | 3564.15 |
| IN-W220.925 | RF111 | 443.04 | 819.6 | 363115.58 | 4 | 14524.62 |
| IN-W228.101 | 002 | 287.33 | 317.3 | 91169.81 | 8 | 7293.58 |
| IN-W228.883 | 002 | 608.82 | 358.0 | 217957.56 | 8 | 17436.60 |
| IN-W228.886 | 002 | 21.36 | 249.6 | 5331.46 | 8 | 426.52 |
| IN-W315.601** | 005 | 0.42 | 664.0 | 278.88 | 62 | 172.91 |
| TOTAL INEL | | 3664.12 | | 2463342.09 | | 179129.19 |
| LA-M002 | | 3606.81 | 1296.0 | 4674425.76 | 8.8 | 411349.47 |
| LA-T006 | | 86.53 | 1004.8 | 86945.34 | 8.8 | 7651.19 |
| LA-W003 | | 1836.58 | 1339.3 | 2459731.59 | 8.7 | 213996.65 |
| LA-W006 | | 1392.10 | 1004.8 | 1398782.08 | 8.7 | 121694.04 |
| TOTAL LANL | | 6922.02 | | 8619884.78 | | 754691.35 |
| | | | | | | |
| TOTAL TRU | | 10814.93 | | 11265031.18 | | 941209.68 |

* INEL did not report waste material parameters for this waste stream. The value for this IDC at RFETS was assumed.

** This waste stream was reported in Clements (1983) to be 60% NaNO₃ and 30% KNO₃. The weight of the waste for this IDC was used from Clements (1983), since no value was quoted in Revision 2 of the TWBIR.

TABLE 4 : SULFATE CALCULATION

| Waste Stream | IDs | Waste Form | Volume (m3) | Sum WMP (kg/m3) | Mass Waste (kg) | % sulfate (weight %) | Sulfate (kg) |
|--------------------|-------------|-------------|-----------------|-----------------|--------------------|----------------------|------------------|
| RF-MT0001 | 001 | Sol. Inorg. | 3.74 | 781.9 | 2924.31 | 0.11 | 3.22 |
| RF-MT0007 | 007 | Sol. Inorg. | 0.83 | 544.3 | 452.86 | 0.02 | 0.09 |
| RF-MT0000 | 800 | Sol. Inorg. | 104.42 | 775.2 | 80946.38 | 0.055 | 44.52 |
| RF-MT0001 | 801 | Sol. Org. | 108.99 | 877.1 | 95595.13 | 25.1 | 23994.38 |
| RF-MT0003 | 803 | Sol. Inorg. | 4.99 | 635.2 | 3169.65 | 0.055 | 1.74 |
| RF-MT0007 | 807 | Sol. Inorg. | 115.02 | 819.6 | 94270.39 | 0.01 | 9.43 |
| RF-T010 | 800/803/807 | Sol. Inorg. | 0.62 | 796.1 | 493.58 | 0.055 | 0.27 |
| TOTAL RFETS | | | 338.61 | | 277852.30 | | 24053.65 |
| IN-W164.1060* | 700 | Sol. Org. | 1.66 | 877.1 | 1455.99 | 25.1 | 365.45 |
| IN-W164.153* | 700 | Sol. Org. | 0.89 | 877.1 | 780.62 | 25.1 | 195.94 |
| IN-W216.875 | 001/002 | Sol. Inorg. | 1478.88 | 819.6 | 1212090.05 | 0.11 | 1333.30 |
| IN-W216.877 | 001/002 | Sol. Inorg. | 43.91 | 571.4 | 25090.17 | 0.11 | 27.60 |
| IN-W216.98 | 001/002 | Sol. Inorg. | 555.65 | 726.6 | 403735.29 | 0.11 | 444.11 |
| IN-W218.909* | 007 | Sol. Inorg. | 101.91 | 544.3 | 55469.61 | 0.02 | 11.09 |
| IN-W220.114 | RF111 | Sol. Inorg. | 122.80 | 725.6 | 89103.68 | 0.055 | 49.01 |
| IN-W220.925 | RF111 | Sol. Inorg. | 443.04 | 819.6 | 363115.58 | 0.055 | 199.71 |
| IN-W228.101 | 002 | Sol. Inorg. | 287.33 | 317.3 | 91169.81 | 0.11 | 100.29 |
| IN-W228.883 | 002 | Sol. Inorg. | 608.82 | 358.0 | 217957.56 | 0.11 | 239.75 |
| IN-W228.886 | 002 | Sol. Inorg. | 21.36 | 249.6 | 5331.46 | 0.11 | 5.86 |
| TOTAL INEL | | | 3666.25 | | 2465299.82 | | 2972.11 |
| LA-M002 | | Sol. Inorg. | 3606.81 | 1296.0 | 4674425.76 | 1.4 | 65441.96 |
| LA-T006 | | Sol. Inorg. | 86.53 | 1004.8 | 86945.34 | 1.7 | 1478.07 |
| LA-W003 | | Sol. Inorg. | 1836.58 | 1339.3 | 2459731.59 | 5.5 | 135285.24 |
| LA-W006 | | Sol. Inorg. | 1392.10 | 1004.8 | 1398782.08 | 8.1 | 113301.35 |
| TOTAL LANL | | | 6922.02 | | 8619884.78 | | 315506.62 |
| LL-W019** | | Sol. Org. | 6.86 | 268.0 | 1838.48 | 25.1 | 461.46 |
| TOTAL LLNL | | | 6.86 | | 1838.48 | | 461.46 |
| TOTAL TRU | | | 10933.74 | | 11364875.38 | | 342993.84 |

* INEL did not report waste material parameters for this waste stream. The value for this IDC at RFETS was assumed.

** Sulfate value for LLNL Solidified Organics was assumed to be the same as for RFETS Solidified Organics (IDC 801).

TABLE 5. NITRATE/SULFATE DENSITY CALCULATIONS

| Constituent | Volume Solidified Waste (m3) | Mass Solidified Waste (kg) | Mass Constituent (kg) | Anticipated Waste Volume (m3) | WIPP Average Density of Constituents (kg/m3) | % Sludge Used in Calculations (%) | WIPP Average Scaled Density of Constituents (kg/m3) | Total Mass of Constituent for WIPP Design Capacity (kg) |
|-------------|------------------------------|----------------------------|-----------------------|-------------------------------|--|-----------------------------------|---|---|
| Footnotes | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Nitrate | 10815.76 | 11265484 | 941245.9 | 1.19E+05 | 7.91 | 85.6 | 9.24 | 1.62E+06 |
| Sulfate | 10933.74 | 11364875 | 342993.8 | 1.19E+05 | 2.88 | 80 | 3.60 | 6.33E+05 |

1. "Total TRU" Volumes for Tables 3 and 4.
2. "Total TRU" Mass from Tables 3 and 4.
3. "Total TRU" Nitrate/Sulfate from Tables 3 and 4.
4. Anticipated Volume of CH-and RH-TRU Waste (stored + projected to 2022) from Table 3-1 in Rev. 2 of TWBIR. RH-TRU anticipated volume is limited to 7080 m3, the design capacity of WIPP.
5. "Mass of Constituent" column divided by "Anticipated Waste Volume" column.
6. Calculated from Table 1 "Total TRU" data. Nitrate = subtract 10815.76 from 13647 to yield particulate waste (2831.24). Subtract 2831.24 from 15459.01 to get total chemically precipitated waste (12627.77). Divide 10815.76 by 12627.77 and multiply by 100%. Sulfate is calculated in a similar manner.
7. Divide "Density of Constituent" by "% Sludge Used in Calculations."
8. Multiply "Scaled Density of Constituent" by 175,600 m3 (design capacity of WIPP).

TELEPHONE CONFERENCE SUMMARY

Parties: Paul Drez, DEA/CTAC
 Davis Christenson, LANL

For Solidified Inorganics waste stream LA-T006; LA-W003; LA-W006;
 and LA-M002 assume the following composition for final waste
 form:

Envirostone-based solidified waste forms:

Nitrate 8.2%
 Sulfate 38.5%
 Phosphate 0.001%

Portland Cement-based solidified waste forms:

Nitrate 8.8%
 Sulfate 1.4%
 Phosphate 0.001%

LA-M002 has only used portland cement; the other three have use
 portland cement until 1985 and then Envirostone:

| WS# | Stored Wasted | | Projected Waste | |
|---------|---------------|-------------|-----------------|-------------|
| | Portland | Envirostone | Portland | Envirostone |
| LA-T006 | 84.5% | 15.5% | 100% | 0% |
| LA-W006 | 54.65% | 45.35% | 100% | 0% |
| LA-W003 | 84.5% | 15.5% | 100% | 0% |
| LA-M002 | 100% | 0% | 100% | 0% |

ATTACHMENT 2

061472-01

LABORATORY SAMPLE RESULTS

DATE 04/10/80

PAGE 1

7412 Sludge

SAMPLE-ID DJ-009395
 ENTRY DATE 11-01-79
 COMPLETION DATE 04-10-80

DJO NUMBER 97038000
 ACCOUNT CHARGED 8037
 BUILDING 559
 CLASS SSP1

CUSTOMER P. T. GODESAIBOIS

** ATOMIC ABSORPTION SPECTROMETRY RESULTS

| | | | | | | |
|----|---|--------|--------|----|--------|--------|
| CA | | 86512. | PPM(W) | FE | 61597. | PPM(W) |
| GA | < | 50. | PPM(W) | K | 6162. | PPM(W) |
| NA | | 65501. | PPM(W) | SI | 3659. | PPM(W) |

** PLUTONIUM CHEMISTRY LABORATORY RESULTS

| | | | | | |
|-------|-------|--------|-------|--------|------|
| CL(-) | 0.16 | Z(W) | CC3= | 0.36 | Z(W) |
| F(-) | 57. | PPM(W) | H2O | 61.0 | Z(W) |
| NO3 | 4.2 | Z(W) | PO4 < | 0.0025 | Z(W) |
| SO4 | 0.085 | Z(W) | | | |

** SEMI-QUANTATIVE EMISSION SPEC RESULTS

| | | | | | | |
|----|---|--------|--------|----|-----------|--------|
| AG | < | 50. | PPM(W) | AL | 20000. | PPM(W) |
| AS | < | 50. | PPM(W) | B | 100. | PPM(W) |
| BA | | 100. | PPM(W) | BE | 50. | PPM(W) |
| BI | < | 50. | PPM(W) | CA | > 200000. | PPM(W) |
| CD | < | 1000. | PPM(W) | CE | < 500. | PPM(W) |
| CO | < | 50. | PPM(W) | CR | 500. | PPM(W) |
| CS | < | 1000. | PPM(W) | CU | 4000. | PPM(W) |
| FE | | 50000. | PPM(W) | GE | < 10. | PPM(W) |
| HG | < | 10. | PPM(W) | K | 40000. | PPM(W) |
| LI | < | 1000. | PPM(W) | MG | 10000. | PPM(W) |
| MN | | 500. | PPM(W) | MO | 500. | PPM(W) |
| NA | | 50000. | PPM(W) | NB | < 50. | PPM(W) |
| NI | | 2000. | PPM(W) | P | < 1000. | PPM(W) |
| PB | < | 50. | PPM(W) | RE | < 500. | PPM(W) |
| SB | < | 50. | PPM(W) | SI | 100000. | PPM(W) |
| SN | < | 10. | PPM(W) | SR | 10000. | PPM(W) |
| TA | < | 50. | PPM(W) | TE | < 100. | PPM(W) |
| TH | < | 500. | PPM(W) | TI | 500. | PPM(W) |
| TL | < | 500. | PPM(W) | U | < 500. | PPM(W) |
| V | < | 5. | PPM(W) | V | < 1000. | PPM(W) |
| ZN | < | 500. | PPM(W) | ZR | < 50. | PPM(W) |

** RADIOCHEMISTRY LABORATORY RESULTS

AM

0.0000317 G/G

ATTACHMENT 2

D61472-01

LABORATORY SAMPLE RESULTS

DATE 04/10/90

PAGE 2

SAMPLE-ID 00-008395

** RADIOCHEMISTRY LABORATORY RESULTS

(CONTINUED)

PU

0.0000223 G/G

U

C.0017

G/G

AUTHORIZED SIGNATURE

Howell

00000

A2 - 2

B6-16

ATTACHMENT 2

061472-01

LABORATORY SAMPLE RESULTS

DATE 04/10/80

7412 Sludge

PAGE 1

SAMPLE-ID 00-008396
 ENTRY DATE 11-01-79
 COMPLETION DATE 04-10-80

DJO NUMBER 97038000
 ACCOUNT CHARGED 8037
 BUILDING 559
 CLASS SSP1

CUSTOMER P. T. GODESATBOIS

** ATOMIC ABSORPTION SPECTROMETRY RESULTS

| | | | | | | |
|----|---|---------|--------|----|--------|--------|
| CA | | 194587. | PPM(W) | FE | 47915. | PPM(W) |
| GA | < | 50. | PPM(W) | HG | 9581. | PPM(W) |
| NA | | 105060. | PPM(W) | SI | 152. | PPM(W) |

** PLUTONIUM CHEMISTRY LABORATORY RESULTS

| | | | | | |
|-------|-------|--------|------|----------|------|
| CL(-) | 0.15 | Z(W) | CO3= | 0.74 | Z(W) |
| F(-) | 101. | PPM(W) | H2O | 55.0 | Z(W) |
| NO3 | 9.0 | Z(W) | PO4 | < 0.0025 | Z(W) |
| SO4 | 0.096 | Z(W) | | | |

** SEMI-QUANTATIVE EMISSION SPEC RESULTS

| | | | | | | |
|----|---|---------|--------|----|-----------|--------|
| AG | | 13. | PPM(W) | AL | 10000. | PPM(W) |
| AS | < | 50. | PPM(W) | B | 100. | PPM(W) |
| BA | | 500. | PPM(W) | BE | 1000. | PPM(W) |
| BI | < | 50. | PPM(W) | CA | > 200000. | PPM(W) |
| CO | < | 1000. | PPM(W) | CE | < 500. | PPM(W) |
| CO | < | 50. | PPM(W) | CR | 500. | PPM(W) |
| CS | < | 1000. | PPM(W) | CU | 500. | PPM(W) |
| FE | | 50000. | PPM(W) | GE | < 10. | PPM(W) |
| HG | < | 10. | PPM(W) | K | 40000. | PPM(W) |
| LI | < | 1000. | PPM(W) | MG | 50000. | PPM(W) |
| MN | | 500. | PPM(W) | MO | 200. | PPM(W) |
| NA | | 50000. | PPM(W) | NB | < 50. | PPM(W) |
| NI | | 1000. | PPM(W) | P | < 1000. | PPM(W) |
| PB | | 50. | PPM(W) | PU | < 100. | PPM(W) |
| RB | < | 500. | PPM(W) | SE | < 50. | PPM(W) |
| SI | | 100000. | PPM(W) | SN | < 10. | PPM(W) |
| SR | | 10000. | PPM(W) | TA | < 50. | PPM(W) |
| TE | < | 100. | PPM(W) | TH | < 500. | PPM(W) |
| TI | | 500. | PPM(W) | TL | < 500. | PPM(W) |
| U | < | 500. | PPM(W) | V | < 5. | PPM(W) |
| W | < | 1000. | PPM(W) | ZN | < 500. | PPM(W) |
| ZR | < | 50. | PPM(W) | | | |

ATTACHMENT 2

061472-01

LABORATORY SAMPLE RESULTS

DATE 04/10/90

PAGE 2

SAMPLE-ID 00-008396

** RADIOCHEMISTRY LABORATORY RESULTS

AM
PU

0.00000546 G/G
0.0000389 G/G

U

0.000199 G/G

AUTHORIZED SIGNATURE

Hunter

A2 - 4

B6-18

D61472-01

LABORATORY SAMPLE RESULTS

DATE 04/10/80

7412 Sludge

PAGE 1

SAMPLE-ID 00-008397
 ENTRY DATE 11-01-79
 COMPLETION DATE 04-10-80

DJO NUMBER 97038000
 ACCOUNT CHARGED 8037
 BUILDING 559
 CLASS SSPL

CUSTOMER P. T. GODESAIBOIS

** ATOMIC ABSORPTION SPECTROMETRY RESULTS

| | | | | | | |
|----|---|---------|--------|----|--------|--------|
| CA | | 121661. | PPM(W) | FE | 49286. | PPM(W) |
| GA | < | 50. | PPM(W) | HG | 18377. | PPM(W) |
| NA | | 100179. | PPM(W) | SI | 217. | PPM(W) |

** PLUTONIUM CHEMISTRY LABORATORY RESULTS

| | | | | | |
|-------|------|--------|-------|--------|------|
| CL(-) | 1.5 | Z(W) | CC3= | 0.59 | Z(W) |
| F(-) | 143. | PPM(W) | H2O | 60.2 | Z(W) |
| NO3 | 9.1 | Z(W) | PC4 < | 0.0025 | Z(W) |
| SO4 | 0.14 | Z(W) | | | |

** SEMI-QUANTATIVE EMISSION SPEC RESULTS

| | | | | | | |
|----|---|---------|--------|----|---------|--------|
| AG | | 40000. | PPM(W) | AL | 10000. | PPM(W) |
| AS | < | 50. | PPM(W) | B | 100. | PPM(W) |
| BA | | 50. | PPM(W) | BE | 1000. | PPM(W) |
| BI | < | 50. | PPM(W) | CA | 200000. | PPM(W) |
| CD | < | 1000. | PPM(W) | CE | < 500. | PPM(W) |
| CO | < | 50. | PPM(W) | CR | 500. | PPM(W) |
| CS | < | 1000. | PPM(W) | CU | 1000. | PPM(W) |
| FE | | 50000. | PPM(W) | GE | < 10. | PPM(W) |
| HG | < | 10. | PPM(W) | K | 40000. | PPM(W) |
| LI | < | 1000. | PPM(W) | HG | 100000. | PPM(W) |
| MN | | 100. | PPM(W) | MC | 200. | PPM(W) |
| NA | | 60000. | PPM(W) | NB | < 50. | PPM(W) |
| NI | | 500. | PPM(W) | P | < 1000. | PPM(W) |
| PB | | 50. | PPM(W) | PU | < 100. | PPM(W) |
| RB | < | 500. | PPM(W) | SB | < 50. | PPM(W) |
| SI | | 100000. | PPM(W) | SN | < 10. | PPM(W) |
| SR | | 10000. | PPM(W) | TA | < 50. | PPM(W) |
| TE | < | 100. | PPM(W) | TH | < 500. | PPM(W) |
| TI | | 300. | PPM(W) | TL | < 500. | PPM(W) |
| U | < | 500. | PPM(W) | V | < 5. | PPM(W) |
| V | < | 1000. | PPM(W) | ZN | < 500. | PPM(W) |
| ZR | < | 50. | PPM(W) | | | |

ATTACHMENT 2

061472-01

LABORATORY SAMPLE RESULTS

DATE 04/10/80

PAGE 2

SAMPLE-ID

00-008397

** RADIOCHEMISTRY LABORATORY RESULTS

AM
PU

0.000628 MG/G
0.00000481 G/G

U

0.000561 G/G

AUTHORIZED SIGNATURE

H. H. H.



Rockwell International

Energy Systems Group
Rocky Flats Plant
P.O. Box 484
Golden, Colorado 80401

ATTACHMENT 2

ANALYTICAL REPORT

| | | | |
|-------------------------------|--------------------|---|----------------------|
| To C.T. Hewitt 374 File | Account No. 371 | Date 7-24-81 | Lab. No. M81-1109 |
| Reported by | | Approved <u>A.M. Miller</u> A.M. Miller | |

Sample Description

374 Waste Sludge - Dried sludge

Analysis Results

A characterization of the 374 waste sludge was requested. The analysis of a composited sample is given. All results are in %.

| | |
|------------------|------|
| Ca | 11 |
| Mg | 3.8 |
| Si | 5.8 |
| Al | 0.4 |
| Cr | 0.12 |
| Fe | 0.9 |
| K | 0.25 |
| Na | 0.8 |
| C | 13 |
| S | 0.36 |
| SO ₄ | 0.02 |
| Cl | 1.3 |
| F | 0.5 |
| PO ₄ | 40 |
| NO ₃ | 6.6 |
| CO ₃ | 0.04 |
| HCO ₃ | 0.33 |

The cations greater than 1% were determined by A² and those less than 1% by emission spectroscopy. The anions, except for HCO₃, CO₃, and NO₃, were determined on a nitric acid leach of the sludge. Eighteen percent of the sludge was soluble in water, and 36% soluble in nitric acid.

A2-7

B6-21



Rocky Flats Plant
North American Space Operations
Rockwell International Corporation
P.O. Box 454
Golden, Colorado 80402-0454
(303) 966-7000

Rockwell
International

Contractor to U.S. Department of Energy

CORRESPONDENCE
OUTGOING LETTER NO

88-1089

| DIST. | |
|-----------------|---|
| SANCHEZ, D. J. | |
| BADER, C. P. | |
| CAMPBELL, G. W. | |
| WOOD, R. C. | |
| ANZEL, J. E. | |
| KIRBY, W. A. | |
| MENNETT, J. F. | |
| MEYERS, C. W. | |
| SHANNON, W. M. | |
| SMITH, R. E. | |
| WEIDNER, C. W. | |
| WESTON, W. F. | X |
| WILSON, G. L. | |
| WOZNIAK, S. D. | |
| YOUNG, E. R. | |

April 4, 1988

88-RF-1089

Albert E. Whiteman
Area Manager
DOE, RFAO

ENGINEERING PARAMETERS FOR ROCKY FLATS WASTE FORMS

This information is for the attention of W. C. Rask.

Attached are the engineering parameters for Rocky Flats waste forms that were requested in the letter from J. B. Tollison to distribution, dated March 1, 1988. Information is included for all thirteen Rocky Flats waste forms, which will be transported in the TRUPACT-II container.

If you have questions regarding the enclosed information, contact Jim Alexander at (303) 966-7585 or Jeff Faynter at (303) 966-5252. With your approval please forward to DOE/AL, Waste Transportation.

| | |
|-------------------|---|
| BETCHEL, D. H. | |
| CARNIVAL, G. J. | |
| HARMAN, L. R. | |
| HEBERT, J. L. | |
| HOEY, J. B. | |
| HOFFMAN, R. B. | |
| KIRK, D. M. | X |
| LIM, S. W. | |
| LOUGHEBURG, G. E. | |
| MANNON, E. A. | X |
| NEWBY, R. L. | |
| ROCKNER, J. M. | |
| VELASQUEZ, R. A. | |

| | |
|-----------------|---|
| CORRESPONDENCE | |
| BRETZKE, C. A. | X |
| BEINHART, W. D. | X |
| FAYNTER, J. R. | X |
| HILKE, E. L. | X |

| | |
|----------------|---|
| CLASSIFICATION | |
| UNCLASSIFIED | X |
| CONFIDENTIAL | |
| SECRET | |

AMT CLASSIFIER SIG
4/6/88
DATE

IN REPLY TO LTR NO
C521-KF-87

REC. WORKFLOW #32
TR APPROVALS

E. R. Naimon
E. R. Naimon, Manager
Waste Operations
Rocky Flats Plant
Aerospace Operations

Orig. and 3 cc - A. E. Whiteman
Enc.

A3 - 1

B6-22

JKP/jv

ENGINEERING PARAMETERS FOR TRUPACT-II

Waste Stream - - TRU SOLIDIFIED ORGANIC WASTE (WF-112)

For data in Section 1, Secondary Container, and Section 2, Arrangement of Secondary Containers, see the General Engineering Parameters for TRUPACT II.

3 WASTE MATERIAL INFORMATION:

3.1 Structural:

3.1.1 Maximum and Minimum Weight - -

Drums: 750 lb max. / 530 lb avg. / 200 lb. min. (including the weight of the drum)

3.1.2 Acceptable Projectile Envelope - - NA, solid monolith cast in the liner inside the drum.

3.2 Thermal:

3.2.1 Quantity of Radionuclides - - Isotopic Composition (Mix Group 9, TRUPACT-II Spec.):

| <u>Isotope</u> | <u>Fraction</u> |
|----------------|-----------------|
| Pu-238 | TRACE |
| Pu-239 | 0.930 |
| Pu-240 | 0.058 |
| Pu-241 | 0.004 |
| Pu-242 | TRACE |
| Am-241 | TRACE |
| OTHER | 0.007 |

Max. radionuclides (Weapons Grade Pu): 200 grams/drum

Maximum decay heat (Pu): 0.4 watts/drum

(Am): 0.3 watts/drum

Total: 0.7 watts/drum

3.2.2 Chemical Form - -

| | <u>min.</u> | <u>max.</u> | <u>ave.</u> |
|--|-------------|-------------|-------------|
| oils | 10 % | 30 % | |
| trichloroethane and trichlorotrifluoroethane | 5 % | 10 % | |
| carbon tetrachloride | 2 % | 5 % | |
| emulsifier (a polyethyl glycol ester) | 5 % | 10 % | |
| water | 5 % | 15 % | |
| gypsum cement | 40 % | 50 % | 200 lb |
| total liquid (32 gallons) | | | 250 lb |

A3 - 2

APPENDIX B - 7

memorandum

Carlsbad Area Office
Carlsbad, New Mexico 88221

DATE: April 4, 1996
REPLY TO
ATTN OF: CAO:NTP:DW:96-1126
SUBJECT: Estimate of Cement Content in TRU Solidified Waste Forms Scheduled for Disposal in WIPP
TO: Les Shephard, Director, SNL

Attached is a summary of the best estimate of portland cement in stored and projected volumes of solidified waste streams listed in Revision 2 of the Transuranic (TRU) Waste Baseline Inventory Report (TWBIR). This information was requested from the TWBIR team in support of the Performance Assessment team.

These values have been scaled (similar to the methodology used for waste material parameters in the TWBIR) to the full volume of the Waste Isolation Pilot Plant (WIPP) repository. The total estimated weight of portland cement in these scaled solidified waste forms is $8.54\text{E}+06$ kg. Dividing this value by $6.2\text{E}+06$ ft³ ($\sim 175,600$ m³), the maximum capacity of WIPP, yields a portland cement density in the overall combined contact-handled (CH) and remote-handled (RH) transuranic (TRU) waste of 48.6 kg/m³. The portland cement reported is both reacted and unreacted cement in the waste. There are no data available to estimate the percentage of reacted versus unreacted cement.

The basic methodology was to perform a sort of the Revision 2 database that supports the TWBIR for all Solidified Inorganic and Solidified Organic waste streams. This sort resulted in 221 waste streams. Some waste streams were eliminated from further consideration for the following reasons:

- Data about most Rocky Flats waste streams (both residue and nonresidue waste streams) are for waste in current form only and not in final form. The item description code (IDC) for many particulate waste streams will change to final form because the waste is in a cemented final form. A total of 91 current-form RF TRU waste streams were eliminated because of this constraint. (the final form of these waste streams, however, is included in the portland cement estimate.)
- The Solidified Inorganic waste streams listed from Savannah River Site are all vitrified and therefore do not contain any portland cement. A total of 20 waste streams were eliminated because of this constraint.

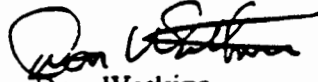


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Les Shephard

3

If you have any questions concerning the attached information, please contact Mr. Russ Bisping of my staff at (505) 234-7446.



Don Watkins

Manager

National TRU Program

Attachment

cc w/attachment:

M. McFadden, CAO

K. Hunter, CAO

R. Bisping, CAO

P. Drez, CTAC

J. Harvill, CTAC

L. Sanchez, SNL

M. Chu, SNL

M. Marietta, SNL

Calculation Summary

At the bottom of Table I the total kilograms of portland cement is summarized for CH-TRU and RH-TRU waste for both stored plus projected waste (in "Total kg" column) and projected only waste (in "Projected kg" column). The TOTAL SCALED portland cement is calculated as follows:

CH-TRU "Total kg" + 2.05 * CH-TRU "Projected kg" + RH-TRU "Total Kg" = TOTAL SCALED kg of portland cement, or

$$5.28\text{E}+06 + 2.05(1.34\text{E}+06) + 5.05\text{E}+05 = 8.54\text{E}+06 \text{ kg portland cement}$$

The total density of portland cement is calculated as follows:

$$8.54\text{E}+06 \text{ kg} / 175,600 \text{ m}^3 = 48.6 \text{ kg/ m}^3 \text{ portland cement}$$

Table 1. Estimate of Portland Cement in TRU Waste for Disposal in the WIPP

| Waste Stream | Waste Description | Solidification | Cement (kg/m ³) | Stored (m ³) | Projected (m ³) | Total kg | Projected kg |
|--------------|---|----------------|-----------------------------|--------------------------|-----------------------------|----------|--------------|
| 1 | Oil waste, does not contain any portland cement | | | | | | |
| 2 | Encapsulated metal waste, does not contain any portland cement | | | | | | |
| 3 | Assume RF-MTD806 for final form cement density | | | | | | |
| 4 | Orco (clay) is used as sorbent not portland cement | | | | | | |
| 5 | Is portland cement for this waste stream in the BIR occurs in the 'Other Inorganic Material' | | | | | | |
| 6 | Only 61% of the solidification agent reported as cement in the TWBIR is portland cement | | | | | | |
| 7 | Atomaceous earth is used as the sorbent in this waste stream | | | | | | |
| 8 | Diaster of Paris used as solidification agent | | | | | | |
| 9 | Vermiculite used as sorbent in this waste stream | | | | | | |
| 10 | Basis for portland cement are values reported in TWBIR supplemented with information provided by LANL | | | | | | |
| 11 | For previous WIPP memo on nitrate, sulfate, and phosphate | | | | | | |
| 12 | Solidification agent is Envirostone (a gypsum-based process) that does not contain portland cement | | | | | | |
| 13 | Solidification agent is a calcium-silicate process that does not use portland cement | | | | | | |
| 14 | Oil Dri is used as sorbent | | | | | | |
| 15 | Solidified organics is paint, contains no portland cement | | | | | | |
| 16 | Solidification agent/sorbent is conwed pads (plastic fiber absorbent) +/- vermiculite | | | | | | |
| 17 | CB containing waste, excluded from current WIPP inventory | | | | | | |

B7-6

APPENDIX C

APPENDIX C

SITE-SPECIFIC STORED RADIONUCLIDE INVENTORIES

CH Curies on a Site-by-Site¹ Basis
(Decayed to the End of 1995)

| Nuclide | ARCO | ARMY | ETEC | HANF | INEL | LBL |
|---------|----------|----------|----------|----------|----------|----------|
| Ac225 | | | 2.23E-15 | 1.31E-01 | 1.52E+00 | 5.45E-06 |
| Ac227 | | 1.98E-15 | 4.08E-14 | 1.02E-04 | 3.86E-02 | 1.35E-19 |
| Ac228 | | | 2.87E-18 | 5.60E-02 | 3.08E-01 | 1.69E-19 |
| Ag109m | | | | | | |
| Ag110 | | | | 5.08E-10 | 3.55E-09 | |
| Ag110m | | | | 3.81E-08 | 2.67E-07 | |
| Am241 | | | 5.19E-01 | 4.73E+03 | 9.01E+04 | 9.17E-02 |
| Am243 | | | | 9.02E-02 | 3.80E-01 | 3.85E-02 |
| Am245 | | | | | 1.12E-09 | 3.60E-14 |
| At217 | | | 2.23E-15 | 1.31E-01 | 1.52E+00 | 5.45E-06 |
| Ba137m | | | 1.99E-01 | 6.46E+02 | 5.71E+01 | |
| Bi210 | 5.22E-15 | | 2.05E-15 | 5.30E-06 | 2.70E-02 | 8.96E-03 |
| Bi211 | | 1.98E-15 | 4.08E-14 | 1.02E-04 | 3.87E-02 | 1.35E-19 |
| Bi212 | | | 1.10E-18 | 5.19E-02 | 2.62E+01 | 8.59E-20 |
| Bi213 | | | 2.23E-15 | 1.31E-01 | 1.52E+00 | 5.45E-06 |
| Bi214 | 6.86E-13 | | 4.56E-14 | 3.15E-05 | 4.80E-02 | 3.37E-02 |
| Bk249 | | | | | 7.70E-05 | 2.48E-09 |
| Bk250 | | | | | | 8.68E-08 |
| C14 | | | | 1.60E+00 | 1.66E-01 | |
| Cd109 | | | | | | |
| Cd113m | | | | 1.25E-09 | 3.20E-08 | |
| Ce144 | | | | 4.41E-03 | 3.15E-02 | |

¹Argonne National Laboratory-East, Argonne National Laboratory-West, and Teledyne Brown Engineering are not included because no data were received. Data from Sandia National Laboratory-Albuquerque are reported under RH-TRU waste because although the final waste form is expected to be CH-TRU waste, the stored waste is remotely handled at the site.

CH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | ARCO | ARMY | ETEC | HANF | INEL | LBL |
|---------|------|----------|----------|----------|----------|----------|
| Cf249 | | | | | 1.02E-02 | 3.10E-03 |
| Cf250 | | | | | | 1.97E-04 |
| Cf251 | | | | | | |
| Cf252 | | | | 3.55E-05 | 2.19E-03 | |
| Cm242 | | | | | 2.73E-08 | |
| Cm243 | | | | 1.52E-02 | | |
| Cm244 | | | | 3.70E+03 | 4.91E+02 | 8.70E-02 |
| Cm245 | | | | 1.71E-03 | 9.09E-06 | 2.27E-06 |
| Cm246 | | | | | 1.53E-03 | 4.83E-07 |
| Cm247 | | | | | | |
| Cm248 | | | | 8.13E-09 | 4.73E-07 | |
| Co58 | | | | | 1.22E-14 | |
| Co60 | | | | | 6.23E+01 | |
| Cs134 | | | | 2.45E-04 | 1.20E-03 | |
| Cs135 | | | | 1.91E-07 | 8.08E-06 | |
| Cs137 | | | 2.11E-01 | 6.83E+02 | 6.04E+01 | |
| Es254 | | | | | | 8.67E-08 |
| Eu150 | | | | | 3.50E-05 | |
| Eu152 | | | | 7.34E-07 | 1.62E-01 | |
| Eu154 | | | | 6.22E-05 | 6.42E-01 | |
| Eu155 | | | | 1.06E-03 | 3.82E-01 | |
| Fe55 | | | | | 1.91E-05 | |
| Fe59 | | | | | 3.38E-21 | |
| Fr221 | | | 2.23E-15 | 1.31E-01 | 1.52E+00 | 5.45E-06 |
| Fr223 | | 2.73E-17 | 5.63E-16 | 1.41E-06 | 5.33E-04 | 1.86E-21 |
| H3 | | | | | 8.02E-01 | |
| I129 | | | | | | |

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CH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | ARCO | ARMY | ETEC | HANF | INEL | LBL |
|---------|----------|----------|----------|----------|----------|----------|
| Kr85 | | | | | | |
| Mn54 | | | | | 8.49E-04 | |
| Nb95 | | | | 1.80E-11 | 2.38E-09 | |
| Nb95m | | | | 6.00E-14 | 7.95E-12 | |
| Ni59 | | | | | | |
| Ni63 | | | | | 9.06E-05 | |
| Np237 | | | 9.49E-07 | 2.72E-01 | 8.53E-01 | 6.32E-06 |
| Np239 | | | | 9.02E-02 | 3.80E-01 | 3.85E-02 |
| Np240m | | | | 5.84E-10 | 3.50E-14 | |
| Pa231 | | 1.88E-13 | 6.72E-13 | 4.84E-04 | 1.33E-05 | 1.99E-18 |
| Pa233 | | | 9.49E-07 | 2.72E-01 | 8.53E-01 | 6.32E-06 |
| Pa234 | | | 6.06E-17 | 7.62E-03 | 1.50E-04 | 2.40E-14 |
| Pa234m | | | 4.66E-14 | 5.86E+00 | 1.16E-01 | 1.84E-11 |
| Pb209 | | | 2.23E-15 | 1.31E-01 | 1.52E+00 | 5.45E-06 |
| Pb210 | 5.22E-15 | | 2.05E-15 | 5.30E-06 | 2.70E-02 | 8.96E-03 |
| Pb211 | | 1.98E-15 | 4.08E-14 | 1.02E-04 | 3.87E-02 | 1.35E-19 |
| Pb212 | | | 1.10E-18 | 5.19E-02 | 2.62E+01 | 8.59E-20 |
| Pb214 | 6.86E-13 | | 4.56E-14 | 3.15E-05 | 4.80E-02 | 3.37E-02 |
| Pd107 | | | | 2.82E-08 | 1.19E-06 | |
| Pm147 | | | | 4.78E-02 | 2.63E+00 | |
| Po210 | 1.42E-15 | | 2.05E-15 | 5.30E-06 | 2.70E-02 | 8.96E-03 |
| Po211 | | 5.53E-18 | 1.14E-16 | 2.87E-07 | 1.08E-04 | 3.78E-22 |
| Po212 | | | 7.04E-19 | 3.32E-02 | 1.68E+01 | |
| Po213 | | | 2.19E-15 | 1.28E-01 | 1.49E+00 | 5.33E-06 |
| Po214 | 6.86E-13 | | 4.56E-14 | 3.15E-05 | 4.80E-02 | 3.37E-02 |
| Po215 | | 1.98E-15 | 4.08E-14 | 1.02E-04 | 3.87E-02 | 1.35E-19 |
| Po216 | | | 1.10E-18 | 5.19E-02 | 2.62E+01 | 8.59E-20 |

¹Argonne National Laboratory-East, Argonne National Laboratory-West, and Teledyne Brown Engineering are not included because no data were received. Data from Sandia National Laboratory-Albuquerque are reported under RH-TRU waste because although the final waste form is expected to be CH-TRU waste, the stored waste is remotely handled at the site.

CH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | ARCO | ARMY | ETEC | HANF | INEL | LBL |
|---------|----------|----------|----------|----------|----------|----------|
| Po218 | 6.86E-13 | 1.40E-11 | 4.56E-14 | 3.15E-05 | 4.80E-02 | 3.37E-02 |
| Pr144 | | | | 4.36E-03 | 3.12E-02 | |
| Pu236 | | | | | 1.04E-02 | |
| Pu238 | 3.70E+02 | | 1.11E-01 | 8.05E+04 | 5.98E+04 | 2.32E-04 |
| Pu239 | | 1.80E+01 | 1.79E+00 | 2.63E+04 | 4.01E+04 | 8.45E-06 |
| Pu240 | | | 6.12E-01 | 6.15E+03 | 9.82E+03 | 5.14E-03 |
| Pu241 | | | 6.22E+00 | 3.78E+04 | 1.50E+05 | 4.48E-07 |
| Pu242 | | | 5.00E-05 | 3.80E-01 | 9.45E-01 | 1.01E-02 |
| Pu243 | | | | | | |
| Pu244 | | | | 5.85E-10 | 3.50E-14 | |
| Ra223 | | 1.98E-15 | 4.08E-14 | 1.02E-04 | 3.87E-02 | 1.35E-19 |
| Ra224 | | | 1.10E-18 | 5.19E-02 | 2.62E+01 | 8.59E-20 |
| Ra225 | | | 2.23E-15 | 1.31E-01 | 1.52E+00 | 5.45E-06 |
| Ra226 | 6.86E-13 | | 4.56E-14 | 3.15E-05 | 4.80E-02 | 3.37E-02 |
| Ra228 | | | 2.87E-18 | 5.60E-02 | 3.08E-01 | 1.69E-19 |
| Rh106 | | | | 2.17E-03 | 1.12E-02 | |
| Rn219 | | 1.98E-15 | 4.08E-14 | 1.02E-04 | 3.87E-02 | 1.35E-19 |
| Rn220 | | | 1.10E-18 | 5.19E-02 | 2.62E+01 | 8.59E-20 |
| Rn222 | 6.86E-13 | | 4.56E-14 | 3.15E-05 | 4.80E-02 | 3.37E-02 |
| Ru106 | | | | 2.17E-03 | 1.12E-02 | |
| Sb125 | | | | 5.91E-04 | 3.53E-03 | |
| Sb126 | | | | 5.13E-08 | 2.17E-06 | |
| Sb126m | | | | 3.67E-07 | 1.55E-05 | |
| Se79 | | | | 1.66E-07 | 7.00E-06 | |
| Sm151 | | | | 6.14E-04 | 2.39E-02 | |
| Sn119m | | | | 2.95E-07 | 2.10E-06 | |
| Sn121m | | | | 1.20E-05 | 4.38E-04 | |

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CH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | ARCO | ARMY | ETEC | HANF | INEL | LBL |
|---------|----------|----------|----------|----------|----------|----------|
| Sn126 | | | | 3.67E-07 | 1.55E-05 | |
| Sr90 | | | 2.00E-01 | 6.92E+02 | 1.96E+00 | |
| Tc99 | | | | 9.51E-06 | 2.16E-03 | |
| Te125m | | | | 1.44E-04 | 8.62E-04 | |
| Te127 | | | | 3.95E-09 | 1.02E-07 | |
| Te127m | | | | 4.03E-09 | 1.04E-07 | |
| Th227 | | 1.95E-15 | 4.02E-14 | 1.01E-04 | 3.82E-02 | 1.33E-19 |
| Th228 | | | 1.10E-18 | 5.19E-02 | 2.62E+01 | 8.59E-20 |
| Th229 | | | 2.23E-15 | 1.31E-01 | 1.52E+00 | 5.45E-06 |
| Th230 | 4.75E-09 | | 5.25E-11 | 8.11E-03 | 2.08E-02 | 1.50E-13 |
| Th231 | | 1.77E-08 | 1.06E-08 | 1.71E+00 | 6.17E-02 | 3.32E-14 |
| Th232 | | | 1.61E-17 | 6.71E-02 | 3.30E-01 | 5.33E-19 |
| Th234 | | | 4.66E-14 | 5.86E+00 | 1.16E-01 | 1.84E-11 |
| Ti207 | | 1.97E-15 | 4.07E-14 | 1.02E-04 | 3.86E-02 | 1.34E-19 |
| Ti208 | | | 3.95E-19 | 1.86E-02 | 9.42E+00 | 3.09E-20 |
| Ti209 | | | 4.83E-17 | 2.82E-03 | 3.28E-02 | 1.18E-07 |
| U232 | | | | | 2.53E+01 | |
| U233 | | | 1.20E-11 | 8.00E+01 | 8.99E+02 | 4.81E-03 |
| U234 | 1.05E-03 | | 1.93E-06 | 5.37E+01 | 6.17E+00 | 4.73E-09 |
| U235 | | 1.77E-08 | 1.06E-08 | 1.71E+00 | 6.17E-02 | 3.32E-14 |
| U236 | | | 1.09E-07 | 2.49E-03 | 5.27E-03 | 1.81E-09 |
| U237 | | | 1.53E-04 | 9.26E-01 | 3.67E+00 | 1.10E-11 |
| U238 | | | 4.66E-14 | 5.86E+00 | 1.16E-01 | 1.84E-11 |
| U240 | | | | 5.84E-10 | 3.50E-14 | |
| Y90 | | | 2.00E-01 | 6.92E+02 | 1.96E+00 | |
| Zr93 | | | | 2.14E-06 | 9.06E-05 | |
| Zr95 | | | | 8.09E-12 | 1.07E-09 | |

¹Argonne National Laboratory-East, Argonne National Laboratory-West, and Teledyne Brown Engineering are not included because no data were received. Data from Sandia National Laboratory-Albuquerque are reported under RH-TRU waste because although the final waste form is expected to be CH-TRU waste, the stored waste is remotely handled at the site.

CH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | ARCO | ARMY | ETEC | HANF | INEL | LBL |
|---------------|----------|----------|----------|----------|----------|----------|
| Total by Site | 3.70E+02 | 1.80E+01 | 1.01E+01 | 1.62E+05 | 3.51E+05 | 5.08E-01 |

| Nuclide | LANL | LLNL | MOUND | MURR | NTS | ORNL |
|---------|----------|----------|----------|----------|----------|----------|
| Ac225 | 8.06E-02 | 9.81E-13 | | 1.59E-13 | 2.41E-03 | 2.07E-01 |
| Ac227 | 2.32E-01 | 3.32E-10 | 4.13E-12 | 1.83E-17 | 2.09E-04 | 9.85E-03 |
| Ac228 | 1.59E-03 | 1.60E-16 | | | 1.90E-16 | 7.12E-04 |
| Ag109m | 6.56E+00 | | | | | |
| Ag110 | 2.87E-11 | | | | 5.55E-11 | |
| Ag110m | 2.16E-09 | | | | 4.18E-09 | |
| Am241 | 9.11E+03 | 1.44E+02 | | 3.24E-01 | 2.84E+02 | 1.61E+03 |
| Am243 | 3.83E+00 | 2.45E-02 | | | 1.22E+00 | 1.16E+01 |
| Am245 | 1.95E-15 | | | | 5.29E-14 | 1.49E-10 |
| At217 | 8.06E-02 | 9.81E-13 | | 1.59E-13 | 2.41E-03 | 2.07E-01 |
| Ba137m | 4.55E+01 | 1.57E-06 | | | 3.41E-01 | 2.20E+03 |
| Bi210 | 2.80E-01 | 2.38E-13 | 7.23E-10 | | 6.69E-02 | 1.26E+00 |
| Bi211 | 2.32E-01 | 3.32E-10 | 4.13E-12 | 1.83E-17 | 2.09E-04 | 9.85E-03 |
| Bi212 | 1.32E-03 | 6.13E-17 | | | 1.64E-02 | 2.84E-01 |
| Bi213 | 8.06E-02 | 9.81E-13 | | 1.59E-13 | 2.41E-03 | 2.07E-01 |
| Bi214 | 9.04E-01 | 9.47E-12 | 6.88E-09 | 1.94E-22 | 2.50E-01 | 6.49E+00 |
| Bk249 | 1.35E-10 | | | | 3.65E-09 | 1.03E-05 |
| Bk250 | | | | | 4.11E-11 | 9.51E-13 |
| C14 | 2.00E-07 | | | | 2.50E-04 | |
| Cd109 | 6.55E+00 | | | | | |
| Cd113m | 7.42E-07 | | | | 6.50E-09 | |
| Ce144 | 3.04E-04 | | | | 7.88E-04 | |
| Cf249 | 9.64E-04 | | | | 1.14E-02 | 2.82E-02 |

¹Argonne National Laboratory-East, Argonne National Laboratory-West, and Teledyne Brown Engineering are not included because no data were received. Data from Sandia National Laboratory-Albuquerque are reported under RH-TRU waste because although the final waste form is expected to be CH-TRU waste, the stored waste is remotely handled at the site.

CH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | LANL | LLNL | MOUND | MURR | NTS | ORNL |
|---------|----------|----------|----------|----------|----------|----------|
| Cf250 | | | | | 3.18E-01 | 1.49E-03 |
| Cf251 | 1.58E-03 | | | | | |
| Cf252 | | | | | 1.70E-02 | 1.60E-01 |
| Cm242 | 3.42E-17 | 1.70E-04 | | | | 1.39E-03 |
| Cm243 | 1.09E+00 | | | | | |
| Cm244 | 1.57E+02 | 6.54E+01 | | | 2.28E+02 | 1.06E+03 |
| Cm245 | 1.60E-06 | | | | 9.44E-06 | 3.35E-05 |
| Cm246 | 4.01E-02 | 5.22E-04 | | | 6.14E-04 | 1.60E-05 |
| Cm247 | 1.34E-09 | | | | | |
| Cm248 | | | | | 3.57E-06 | 2.55E-02 |
| Co58 | 1.22E-13 | | | | | |
| Co60 | 2.14E-04 | | | | | 1.84E-06 |
| Cs134 | 4.24E-03 | | | | 4.03E-04 | |
| Cs135 | 2.05E-04 | | | | 1.20E-06 | |
| Cs137 | 4.81E+01 | 1.66E-06 | | | 3.60E-01 | 2.33E+03 |
| Es254 | | | | | 4.11E-11 | |
| Eu150 | | | | | | |
| Eu152 | 4.18E-04 | 1.33E-06 | | | 1.06E+00 | 6.18E-04 |
| Eu154 | 2.45E-02 | 5.25E-07 | | | 4.28E-01 | |
| Eu155 | 2.31E-01 | | | | 3.80E-03 | |
| Fe55 | | | | | | |
| Fe59 | 1.35E-16 | | | | | 1.87E-07 |
| Fr221 | 8.06E-02 | 9.81E-13 | | 1.59E-13 | 2.41E-03 | 2.07E-01 |
| Fr223 | 3.20E-03 | 4.58E-12 | 5.70E-14 | 2.53E-19 | 2.89E-06 | 1.36E-04 |
| H3 | | | | | 6.46E-02 | |
| I129 | | | | | | |
| Kr85 | | | | | 1.96E-01 | |

¹Argonne National Laboratory-East, Argonne National Laboratory-West, and Teledyne Brown Engineering are not included because no data were received. Data from Sandia National Laboratory-Albuquerque are reported under RH-TRU waste because although the final waste form is expected to be CH-TRU waste, the stored waste is remotely handled at the site.

CH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | LANL | LLNL | MOUND | MURR | NTS | ORNL |
|---------|----------|----------|----------|----------|----------|----------|
| Mn54 | 5.48E-08 | | | | | |
| Nb95 | 1.76E-11 | | | | 1.51E-17 | |
| Nb95m | 5.89E-14 | | | | 5.05E-20 | |
| Ni59 | | | | | | |
| Ni63 | | | | | | 1.09E-04 |
| Np237 | 3.24E-02 | 4.71E-04 | | 2.28E-04 | 5.78E-03 | 7.27E-01 |
| Np239 | 3.83E+00 | 2.45E-02 | | | 1.22E+00 | 1.16E+01 |
| Np240m | 1.94E-07 | | | | 9.99E-07 | 1.10E-09 |
| Pa231 | 1.24E-03 | 1.54E-08 | 3.24E-11 | 8.98E-16 | 5.00E-04 | 3.14E-01 |
| Pa233 | 3.24E-02 | 4.71E-04 | | 2.28E-04 | 5.78E-03 | 7.27E-01 |
| Pa234 | 3.07E-05 | 3.94E-05 | | 1.51E-10 | 2.13E-07 | 5.54E-05 |
| Pa234m | 2.36E-02 | 3.03E-02 | | 1.16E-07 | 1.64E-04 | 4.26E-02 |
| Pb209 | 8.06E-02 | 9.81E-13 | | 1.59E-13 | 2.41E-03 | 2.07E-01 |
| Pb210 | 2.80E-01 | 2.38E-13 | 7.23E-10 | | 6.69E-02 | 1.26E+00 |
| Pb211 | 2.32E-01 | 3.32E-10 | 4.13E-12 | 1.83E-17 | 2.09E-04 | 9.85E-03 |
| Pb212 | 1.32E-03 | 6.13E-17 | | | 1.64E-02 | 2.84E-01 |
| Pb214 | 9.04E-01 | 9.47E-12 | 6.88E-09 | 1.94E-22 | 2.50E-01 | 6.49E+00 |
| Pd107 | 3.03E-05 | | | | 1.78E-07 | |
| Pm147 | 2.00E+00 | | | | 1.05E-01 | 1.94E-02 |
| Po210 | 2.80E-01 | 1.97E-13 | 7.23E-10 | | 6.69E-02 | 1.26E+00 |
| Po211 | 6.50E-04 | 9.28E-13 | 1.16E-14 | 5.13E-20 | 5.86E-07 | 2.76E-05 |
| Po212 | 8.48E-04 | 3.93E-17 | | | 1.05E-02 | 1.82E-01 |
| Po213 | 7.89E-02 | 9.60E-13 | | 1.55E-13 | 2.36E-03 | 2.02E-01 |
| Po214 | 9.04E-01 | 9.47E-12 | 6.87E-09 | | 2.50E-01 | 6.49E+00 |
| Po215 | 2.32E-01 | 3.32E-10 | 4.13E-12 | 1.83E-17 | 2.09E-04 | 9.85E-03 |
| Po216 | 1.32E-03 | 6.13E-17 | | | 1.64E-02 | 2.84E-01 |
| Po218 | 9.05E-01 | 9.47E-12 | 6.88E-09 | 1.94E-22 | 2.50E-01 | 6.49E+00 |

¹Argonne National Laboratory-East, Argonne National Laboratory-West, and Teledyne Brown Engineering are not included because no data were received. Data from Sandia National Laboratory-Albuquerque are reported under RH-TRU waste because although the final waste form is expected to be CH-TRU waste, the stored waste is remotely handled at the site.

CH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | LANL | LLNL | MOUND | MURR | NTS | ORNL |
|---------|----------|----------|----------|----------|----------|----------|
| Pr144 | 3.00E-04 | | | | 7.79E-04 | |
| Pu236 | 5.37E-17 | | | | | |
| Pu238 | 1.15E+05 | 7.65E+01 | 1.53E+03 | | 1.95E+02 | 3.50E+03 |
| Pu239 | 7.69E+04 | 1.58E+02 | 2.98E+01 | 2.46E-02 | 2.76E+03 | 1.01E+03 |
| Pu240 | 1.00E+02 | 6.44E+01 | | | 1.88E+01 | 9.48E+02 |
| Pu241 | 1.62E+03 | 1.63E+03 | | 6.32E-03 | 2.40E+02 | 4.79E+04 |
| Pu242 | 4.85E+02 | 2.02E-02 | | | 8.70E-02 | 2.37E-01 |
| Pu243 | 1.34E-09 | | | | | |
| Pu244 | 1.94E-07 | | | | 1.00E-06 | 1.10E-09 |
| Ra223 | 2.32E-01 | 3.32E-10 | 4.13E-12 | 1.83E-17 | 2.09E-04 | 9.85E-03 |
| Ra224 | 1.32E-03 | 6.13E-17 | | | 1.64E-02 | 2.84E-01 |
| Ra225 | 8.06E-02 | 9.81E-13 | | 1.59E-13 | 2.41E-03 | 2.07E-01 |
| Ra226 | 9.05E-01 | 9.47E-12 | 6.88E-09 | 1.94E-22 | 2.50E-01 | 6.49E+00 |
| Ra228 | 1.59E-03 | 1.60E-16 | | | 1.90E-16 | 7.12E-04 |
| Rh106 | 9.97E-04 | | | | 8.76E-04 | |
| Rn219 | 2.32E-01 | 3.32E-10 | 4.13E-12 | 1.83E-17 | 2.09E-04 | 9.85E-03 |
| Rn220 | 1.32E-03 | 6.13E-17 | | | 1.64E-02 | 2.84E-01 |
| Rn222 | 9.05E-01 | 9.47E-12 | 6.88E-09 | 1.94E-22 | 2.50E-01 | 6.49E+00 |
| Ru106 | 9.97E-04 | | | | 8.76E-04 | |
| Sb125 | 4.67E-02 | | | | 1.37E-03 | |
| Sb126 | 5.52E-05 | | | | 3.23E-07 | |
| Sb126m | 3.94E-04 | | | | 2.31E-06 | |
| Se79 | 1.78E-04 | | | | 1.04E-06 | |
| Sm151 | 6.00E-01 | | | | 3.75E-03 | |
| Sn119m | 1.66E-08 | | | | 2.97E-08 | |
| Sn121m | 1.09E-02 | | | | 7.17E-05 | |
| Sn126 | 3.94E-04 | | | | 2.31E-06 | |

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CH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | LANL | LLNL | MOUND | MURR | NTS | ORNL |
|---------|----------|----------|----------|----------|----------|----------|
| Sr90 | 4.44E+01 | | | | 3.10E-01 | 1.48E+03 |
| Tc99 | 1.02E-02 | | | | 5.99E-05 | 1.78E+01 |
| Te125m | 1.14E-02 | | | | 3.33E-04 | |
| Te127 | 7.45E-10 | | | | 2.29E-12 | |
| Te127m | 7.60E-10 | | | | 2.34E-12 | |
| Th227 | 2.29E-01 | 3.27E-10 | 4.07E-12 | 1.81E-17 | 2.06E-04 | 9.72E-03 |
| Th228 | 1.32E-03 | 6.13E-17 | | | 1.64E-02 | 2.84E-01 |
| Th229 | 8.06E-02 | 9.81E-13 | | 1.59E-13 | 2.41E-03 | 2.07E-01 |
| Th230 | 4.90E-04 | 3.06E-08 | 3.35E-06 | 1.35E-18 | 9.98E-07 | 2.45E-04 |
| Th231 | 5.27E-01 | 5.93E-04 | 2.68E-07 | 4.45E-11 | 6.15E-05 | 8.15E-03 |
| Th232 | 2.29E-03 | 9.37E-16 | | | 8.19E-16 | 8.57E-04 |
| Th234 | 2.36E-02 | 3.03E-02 | | 1.16E-07 | 1.64E-04 | 4.26E-02 |
| Ti207 | 2.31E-01 | 3.31E-10 | 4.12E-12 | 1.83E-17 | 2.09E-04 | 9.82E-03 |
| Ti208 | 4.76E-04 | 2.20E-17 | | | 5.89E-03 | 1.02E-01 |
| Ti209 | 1.74E-03 | 2.12E-14 | | 3.43E-15 | 5.20E-05 | 4.47E-03 |
| U232 | 5.50E-18 | | | | 1.65E-02 | 2.90E-01 |
| U233 | 4.46E+01 | 5.95E-09 | | 1.78E-09 | 1.81E+00 | 1.77E+02 |
| U234 | 5.84E+00 | 3.17E-03 | 5.52E-02 | 2.98E-13 | 1.25E-02 | 1.57E+01 |
| U235 | 5.27E-01 | 5.93E-04 | 2.68E-07 | 4.45E-11 | 6.15E-05 | 8.15E-03 |
| U236 | 2.99E-06 | 7.63E-06 | | | 4.20E-06 | 3.40E-04 |
| U237 | 3.98E-02 | 4.00E-02 | | 1.55E-07 | 5.88E-03 | 1.18E+00 |
| U238 | 2.36E-02 | 3.03E-02 | | 1.16E-07 | 1.64E-04 | 4.26E-02 |
| U240 | 1.94E-07 | | | | 9.99E-07 | 1.10E-09 |
| Y90 | 4.45E+01 | | | | 3.10E-01 | 1.48E+03 |
| Zr93 | 2.30E-03 | | | | 1.35E-05 | |
| Zr95 | 7.93E-12 | | | | 6.81E-18 | |

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CH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | LANL | LLNL | MOUND | MURR | NTS | ORNL |
|----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Total by Site | 2.03E+05 | 2.14E+03 | 1.56E+03 | 3.55E-01 | 3.74E+03 | 6.38E+04 |

¹Argonne National Laboratory-East, Argonne National Laboratory-West, and Teledyne Brown Engineering are not included because no data were received. Data from Sandia National Laboratory-Albuquerque are reported under RH-TRU waste because although the final waste form is expected to be CH-TRU waste, the stored waste is remotely handled at the site.

CH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | PAD | PANT | RFETS | RF-Res | SR-On | SR-Off | TOTAL |
|---------|----------|----------|----------|----------|----------|----------|----------|
| Ac225 | 4.01E-07 | | 3.55E-11 | 2.14E-09 | 1.31E-05 | 1.02E-10 | 1.94E+00 |
| Ac227 | 1.27E-12 | 4.83E-17 | 1.58E-10 | 1.62E-08 | 3.70E-07 | 2.89E-10 | 2.80E-01 |
| Ac228 | | | 1.49E-14 | 7.07E-13 | 1.01E-02 | 2.13E-14 | 3.76E-01 |
| Ag109m | | | | | | | 6.56E+00 |
| Ag110 | | | | | | | 4.14E-09 |
| Ag110m | | | | | | | 3.11E-07 |
| Am241 | | | 1.10E+04 | 1.19E+05 | 3.58E+03 | 1.20E+02 | 2.40E+05 |
| Am243 | | | | | 7.55E-01 | | 1.80E+01 |
| Am245 | | | | | | | 1.27E-09 |
| At217 | 4.01E-07 | | 3.55E-11 | 2.14E-09 | 1.31E-05 | 1.02E-10 | 1.94E+00 |
| Ba137m | | | | | 7.11E+00 | | 2.96E+03 |
| Bi210 | | | 4.54E-12 | 1.08E-09 | 1.69E-07 | 9.40E-07 | 1.65E+00 |
| Bi211 | 1.27E-12 | 4.83E-17 | 1.58E-10 | 1.62E-08 | 3.70E-07 | 2.89E-10 | 2.81E-01 |
| Bi212 | | | 4.98E-15 | 3.82E-13 | 9.18E-03 | 1.93E-14 | 2.66E+01 |
| Bi213 | 4.01E-07 | | 3.55E-11 | 2.14E-09 | 1.31E-05 | 1.02E-10 | 1.94E+00 |
| Bi214 | | | 9.77E-11 | 1.35E-08 | 1.51E-06 | 5.79E-06 | 7.72E+00 |
| Bk249 | | | | | | | 8.73E-05 |
| Bk250 | | | | | | | 8.68E-08 |
| C14 | | | | | | | 1.77E+00 |
| Cd109 | | | | | | | 6.55E+00 |
| Cd113m | | | | | | | 7.81E-07 |
| Ce144 | | | | | 8.72E-13 | | 3.70E-02 |
| Cf249 | | | | | | | 5.39E-02 |
| Cf250 | | | | | | | 3.20E-01 |
| Cf251 | | | | | | | 1.58E-03 |
| Cf252 | | | | | 3.62E-01 | | 3.61E+01 |
| Cm242 | | | | | | | 1.56E-03 |

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CH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | PAD | PANT | RFETS | RF-Res | SR-On | SR-Off | TOTAL |
|---------|----------|----------|----------|----------|----------|----------|----------|
| Cm243 | | | | | | | 1.11E+00 |
| Cm244 | | | | | 6.15E+02 | | 6.32E+03 |
| Cm245 | | | | | | | 1.77E-03 |
| Cm246 | | | | | | | 4.28E-02 |
| Cm247 | | | | | | | 1.34E-09 |
| Cm248 | | | | | 1.61E-04 | | 3.35E-02 |
| Co58 | | | | | | | 1.34E-13 |
| Co60 | | | | | 3.56E-01 | | 6.27E+01 |
| Cs134 | | | | | 3.18E-06 | | 6.09E-03 |
| Cs135 | | | | | | | 2.15E-04 |
| Cs137 | | | | | 7.52E+00 | | 3.12E+03 |
| Es254 | | | | | | | 8.68E-08 |
| Eu150 | | | | | | | 3.50E-05 |
| Eu152 | | | | | | | 1.22E+00 |
| Eu154 | | | | | 2.83E-04 | | 1.10E+00 |
| Eu155 | | | | | 3.13E-06 | | 6.18E-01 |
| Fe55 | | | | | | | 1.91E-05 |
| Fe59 | | | | | | | 1.87E-07 |
| Fr221 | 4.01E-07 | | 3.55E-11 | 2.14E-09 | 1.31E-05 | 1.02E-10 | 1.94E+00 |
| Fr223 | 1.75E-14 | 6.67E-19 | 2.19E-12 | 2.23E-10 | 5.10E-09 | 3.99E-12 | 3.87E-03 |
| H3 | | | | | | | 8.66E-01 |
| I129 | | | | | 1.17E-07 | | 1.17E-07 |
| Kr85 | | | | | | | 1.96E-01 |
| Mn54 | | | | | 1.00E-10 | | 8.49E-04 |
| Nb95 | | | | | | | 2.41E-09 |
| Nb95m | | | | | | | 8.06E-12 |
| Ni59 | | | | | 1.25E-03 | | 1.25E-03 |

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CH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | PAD | PANT | RFETS | RF-Res | SR-On | SR-Off | TOTAL |
|---------|----------|----------|----------|----------|----------|----------|----------|
| Ni63 | | | | | 1.53E-01 | | 1.53E-01 |
| Np237 | 5.49E+01 | | 1.70E-02 | 3.19E-01 | 8.59E+00 | 3.58E-03 | 6.58E+01 |
| Np239 | | | | | 7.55E-01 | | 1.80E+01 |
| Np240m | | | | | 1.59E-11 | | 1.20E-06 |
| Pa231 | 2.09E-11 | 2.31E-15 | 2.70E-09 | 1.59E-07 | 1.68E-06 | 1.65E-09 | 3.16E-01 |
| Pa233 | 5.49E+01 | | 1.70E-02 | 3.19E-01 | 8.59E+00 | 3.58E-03 | 6.58E+01 |
| Pa234 | | | 1.94E-17 | 9.23E-12 | 7.37E-06 | 5.26E-08 | 7.90E-03 |
| Pa234m | | | 1.49E-14 | 7.10E-09 | 5.67E-03 | 4.04E-05 | 6.08E+00 |
| Pb209 | 4.01E-07 | | 3.55E-11 | 2.14E-09 | 1.31E-05 | 1.02E-10 | 1.94E+00 |
| Pb210 | | | 4.54E-12 | 1.08E-09 | 1.69E-07 | 9.40E-07 | 1.65E+00 |
| Pb211 | 1.27E-12 | 4.83E-17 | 1.58E-10 | 1.62E-08 | 3.70E-07 | 2.89E-10 | 2.81E-01 |
| Pb212 | | | 4.98E-15 | 3.82E-13 | 9.18E-03 | 1.93E-14 | 2.66E+01 |
| Pb214 | | | 9.77E-11 | 1.35E-08 | 1.51E-06 | 5.79E-06 | 7.72E+00 |
| Pd107 | | | | | | | 3.17E-05 |
| Pm147 | | | | | 1.24E-05 | | 4.79E+00 |
| Po210 | | | 4.50E-12 | 1.08E-09 | 1.69E-07 | 9.40E-07 | 1.65E+00 |
| Po211 | 3.56E-15 | 1.35E-19 | 4.43E-13 | 4.53E-11 | 1.04E-09 | 8.10E-13 | 7.86E-04 |
| Po212 | | | 3.19E-15 | 2.45E-13 | 5.88E-03 | 1.24E-14 | 1.70E+01 |
| Po213 | 3.93E-07 | | 3.47E-11 | 2.10E-09 | 1.28E-05 | 9.94E-11 | 1.90E+00 |
| Po214 | | | 9.77E-11 | 1.35E-08 | 1.51E-06 | 5.79E-06 | 7.72E+00 |
| Po215 | 1.27E-12 | 4.83E-17 | 1.58E-10 | 1.62E-08 | 3.70E-07 | 2.89E-10 | 2.81E-01 |
| Po216 | | | 4.98E-15 | 3.82E-13 | 9.18E-03 | 1.93E-14 | 2.66E+01 |
| Po218 | | | 9.77E-11 | 1.35E-08 | 1.51E-06 | 5.79E-06 | 7.73E+00 |
| Pr144 | | | | | 8.62E-13 | | 3.66E-02 |
| Pu236 | | | | | | | 1.04E-02 |
| Pu238 | | | 3.43E+02 | 8.09E+03 | 2.86E+05 | 2.01E+05 | 7.56E+05 |
| Pu239 | 5.57E+01 | 5.55E-02 | 9.98E+03 | 1.84E+05 | 9.13E+03 | 1.58E+02 | 3.51E+05 |

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CH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | PAD | PANT | RFETS | RF-Res | SR-On | SR-Off | TOTAL |
|---------|----------|----------|----------|----------|----------|----------|----------|
| Pu240 | | | 7.22E+03 | 4.22E+04 | 2.21E+03 | 7.97E+01 | 6.88E+04 |
| Pu241 | | | 5.23E+04 | 7.22E+05 | 6.02E+04 | 1.73E+03 | 1.07E+06 |
| Pu242 | | | 9.63E-05 | 5.33E+00 | 3.75E-01 | | 4.93E+02 |
| Pu243 | | | | | | | 1.34E-09 |
| Pu244 | | | | | 1.59E-11 | | 1.20E-06 |
| Ra223 | 1.27E-12 | 4.83E-17 | 1.58E-10 | 1.62E-08 | 3.70E-07 | 2.89E-10 | 2.81E-01 |
| Ra224 | | | 4.98E-15 | 3.82E-13 | 9.18E-03 | 1.93E-14 | 2.66E+01 |
| Ra225 | 4.01E-07 | | 3.55E-11 | 2.14E-09 | 1.31E-05 | 1.02E-10 | 1.94E+00 |
| Ra226 | | | 9.77E-11 | 1.35E-08 | 1.51E-06 | 5.79E-06 | 7.73E+00 |
| Ra228 | | | 1.49E-14 | 7.07E-13 | 1.01E-02 | 2.13E-14 | 3.76E-01 |
| Rh106 | | | | | 1.84E-10 | | 1.52E-02 |
| Rn219 | 1.27E-12 | 4.83E-17 | 1.58E-10 | 1.62E-08 | 3.70E-07 | 2.89E-10 | 2.81E-01 |
| Rn220 | | | 4.98E-15 | 3.82E-13 | 9.18E-03 | 1.93E-14 | 2.66E+01 |
| Rn222 | | | 9.77E-11 | 1.35E-08 | 1.51E-06 | 5.79E-06 | 7.73E+00 |
| Ru106 | | | | | 1.84E-10 | | 1.52E-02 |
| Sb125 | | | | | 2.60E-05 | | 5.22E-02 |
| Sb126 | | | | | 2.41E-08 | | 5.78E-05 |
| Sb126m | | | | | 1.72E-07 | | 4.12E-04 |
| Se79 | | | | | | | 1.86E-04 |
| Sm151 | | | | | 3.13E-04 | | 6.28E-01 |
| Sn119m | | | | | | | 2.44E-06 |
| Sn121m | | | | | | | 1.14E-02 |
| Sn126 | | | | | 1.72E-07 | | 4.12E-04 |
| Sr90 | | | | | 6.98E+00 | | 2.22E+03 |
| Tc99 | | | | | 4.50E-06 | | 1.78E+01 |
| Te125m | | | | | 6.34E-06 | | 1.27E-02 |
| Te127 | | | | | | | 1.07E-07 |

¹Argonne National Laboratory-East, Argonne National Laboratory-West, and Teledyne Brown Engineering are not included because no data were received. Data from Sandia National Laboratory-Albuquerque are reported under RH-TRU waste because although the final waste form is expected to be CH-TRU waste, the stored waste is remotely handled at the site.

CH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | PAD | PANT | RFETS | RF-Res | SR-On | SR-Off | TOTAL |
|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Te127m | | | | | | | 1.09E-07 |
| Th227 | 1.25E-12 | 4.77E-17 | 1.56E-10 | 1.60E-08 | 3.64E-07 | 2.85E-10 | 2.77E-01 |
| Th228 | | | 4.98E-15 | 3.82E-13 | 9.18E-03 | 1.93E-14 | 2.66E+01 |
| Th229 | 4.01E-07 | | 3.55E-11 | 2.14E-09 | 1.31E-05 | 1.02E-10 | 1.94E+00 |
| Th230 | | | 1.16E-07 | 8.88E-06 | 6.87E-04 | 1.66E-03 | 3.20E-02 |
| Th231 | 3.29E-07 | 1.09E-10 | 4.78E-05 | 1.56E-03 | 5.83E-03 | 1.04E-05 | 2.31E+00 |
| Th232 | | | 1.02E-13 | 2.55E-12 | 2.13E-02 | 4.79E-14 | 4.22E-01 |
| Th234 | | | 1.49E-14 | 7.10E-09 | 5.67E-03 | 4.04E-05 | 6.08E+00 |
| Ti207 | 1.27E-12 | 4.82E-17 | 1.58E-10 | 1.61E-08 | 3.69E-07 | 2.88E-10 | 2.80E-01 |
| Ti208 | | | 1.79E-15 | 1.37E-13 | 3.30E-03 | 6.94E-15 | 9.55E+00 |
| Ti209 | 8.67E-09 | | 7.66E-13 | 4.63E-11 | 2.83E-07 | 2.19E-12 | 4.19E-02 |
| U232 | | | | | | | 2.56E+01 |
| U233 | 1.42E-03 | | 1.95E-07 | 6.56E-06 | 8.93E-03 | 1.78E-07 | 1.20E+03 |
| U234 | | | 4.81E-03 | 2.03E-01 | 1.06E+01 | 1.50E+01 | 1.07E+02 |
| U235 | 3.29E-07 | 1.09E-10 | 4.78E-05 | 1.56E-03 | 5.83E-03 | 1.04E-05 | 2.31E+00 |
| U236 | | | 9.17E-04 | 1.07E-02 | 4.77E-02 | 1.12E-04 | 6.75E-02 |
| U237 | | | 1.28E+00 | 1.77E+01 | 1.48E+00 | 4.23E-02 | 2.64E+01 |
| U238 | | | 1.49E-14 | 7.10E-09 | 5.67E-03 | 4.04E-05 | 6.08E+00 |
| U240 | | | | | 1.59E-11 | | 1.20E-06 |
| Y90 | | | | | 6.98E+00 | | 2.22E+03 |
| Zr93 | | | | | | | 2.41E-03 |
| Zr95 | | | | | | | 1.09E-09 |
| TOTAL | 1.66E+02 | 5.55E-02 | 8.08E+04 | 1.08E+06 | 3.62E+05 | 2.03E+05 | 2.51E+06 |

¹Argonne National Laboratory-East, Argonne National Laboratory-West, and Teledyne Brown Engineering are not included because no data were received. Data from Sandia National Laboratory-Albuquerque are reported under RH-TRU waste because although the final waste form is expected to be CH-TRU waste, the stored waste is remotely handled at the site.

CH-TRU Curies on a Site-by-Site Basis (continued)

ABBREVIATIONS

| | |
|--------|---|
| ARCO | ARCO Medical Center, Pennsylvania |
| ARMY | US Army Materiel Command |
| ETEC | Energy Technology Engineering Center |
| HANF | Hanford |
| INEL | Idaho National Engineering Laboratory |
| KAPL | Knolls Atomic Power Laboratory |
| LANL | Los Alamos National Laboratory |
| LBL | Lawrence Berkeley Laboratory |
| LLNL | Lawrence Livermore National Laboratory |
| Mound | Mound Facility |
| MURR | University of Missouri |
| NTS | Nevada Test Site |
| ORNL | Oak Ridge National Laboratory |
| PAD | Paducah |
| PANT | Pantex |
| RFETS | Rocky Flats Environmental Technology Site (All waste except residues) |
| RF-Res | Rocky Flats Environmental Technology Site - Residues Only |
| SR-On | Savannah River Site, waste generated on-site |
| SR-Off | Savannah River Site, waste that was generated off-site but currently stored at Savannah River |

¹Argonne National Laboratory-East, Argonne National Laboratory-West, and Teledyne Brown Engineering are not included because no data were received. Data from Sandia National Laboratory-Albuquerque are reported under RH-TRU waste because although the final waste form is expected to be CH-TRU waste, the stored waste is remotely handled at the site.

**RH Curies on a Site-by-Site¹ Basis
(Decayed to the End of 1995)**

| Nuclide | ETEC | HANF | INEL | KAPL | LANL |
|---------|----------|----------|----------|----------|----------|
| Ac225 | 3.07E-18 | 5.45E-04 | 1.76E-04 | 4.11E-18 | |
| Ac227 | 1.05E-16 | 1.70E-05 | 2.61E-07 | 1.35E-18 | 4.60E-07 |
| Ac228 | | 1.60E-03 | 3.87E-05 | | |
| Ag110 | | | 4.13E-09 | | 9.88E-10 |
| Ag110m | | | 3.11E-07 | | 7.43E-08 |
| Am241 | 5.85E-02 | 1.93E+02 | 4.68E+01 | 5.07E-02 | |
| Am243 | | | 6.91E-04 | | |
| Am245 | | | | | |
| At217 | 3.07E-18 | 5.45E-04 | 1.76E-04 | 4.11E-18 | |
| Ba137m | 2.48E+00 | 6.61E+03 | 1.80E+03 | 5.40E+01 | 1.28E+02 |
| Bi210 | | 2.33E-07 | 6.06E-12 | 1.87E-16 | 5.61E-17 |
| Bi211 | 1.05E-16 | 1.70E-05 | 2.61E-07 | 1.35E-18 | 4.60E-07 |
| Bi212 | | 1.49E-03 | 2.65E-05 | | |
| Bi213 | 3.07E-18 | 5.45E-04 | 1.76E-04 | 4.11E-18 | |
| Bi214 | | 1.16E-06 | 3.26E-10 | 1.24E-14 | 7.25E-15 |
| Bk249 | | | | | |
| C14 | | | 4.00E-02 | | |
| Cd113m | | | 1.15E-07 | | 8.88E-07 |
| Ce144 | | | 3.98E+00 | 1.56E+00 | 1.60E-02 |
| Cf249 | | | | | |
| Cf250 | | | | | |
| Cf252 | | | | | |
| Cm243 | | | 1.45E-02 | | |
| Cm244 | | | 9.63E-02 | | |
| Cm245 | | | | | |
| Cm246 | | | | | |
| Cm248 | | | | | |

¹Argonne National Laboratory-West is not included in this table because no radionuclide data were received from the site.

RH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | ETEC | HANF | INEL | KAPL | LANL |
|---------|----------|----------|----------|----------|----------|
| Co58 | | | 4.37E-11 | | |
| Co60 | 2.30E+00 | 3.36E+02 | 1.31E+01 | 2.75E-01 | 4.17E+00 |
| Cr51 | | | 1.08E-05 | | |
| Cs134 | | | 5.38E+01 | 4.73E+00 | 2.42E-02 |
| Cs135 | | | 2.36E-05 | | 1.91E-04 |
| Cs137 | 2.62E+00 | 6.98E+03 | 1.90E+03 | 5.71E+01 | 1.35E+02 |
| Eu152 | | | 1.14E-01 | | 5.09E-04 |
| Eu154 | | | 7.92E-01 | 1.40E+00 | 3.50E-02 |
| Eu155 | | | 3.35E-01 | 1.81E-01 | 1.77E+00 |
| Fe55 | | | 5.97E-01 | | |
| Fr221 | 3.07E-18 | 5.45E-04 | 1.76E-04 | 4.11E-18 | |
| Fr223 | 1.45E-18 | 2.35E-07 | 3.60E-09 | 1.87E-20 | 6.34E-09 |
| H3 | | | 1.43E-01 | | |
| Kr85 | | | 5.95E+00 | | |
| Mn54 | | | 8.31E-02 | | |
| Nb95 | | | 5.28E-12 | | 2.14E-14 |
| Nb95m | | | 1.76E-14 | | 7.15E-17 |
| Ni63 | | | 3.50E+00 | | |
| Np237 | 2.26E-08 | 1.58E-03 | 8.10E-04 | 2.25E-08 | |
| Np239 | | | 6.91E-04 | | |
| Np240m | | | | | |
| Pa231 | 6.68E-15 | 6.21E-05 | 1.42E-06 | 7.51E-17 | 2.39E-06 |
| Pa233 | 2.26E-08 | 1.58E-03 | 8.10E-04 | 2.25E-08 | |
| Pa234 | | 1.33E-05 | 1.80E-06 | 4.48E-18 | 2.60E-08 |
| Pa234m | | 1.03E-02 | 1.38E-03 | 3.45E-15 | 2.00E-05 |
| Pb209 | 3.07E-18 | 5.45E-04 | 1.76E-04 | 4.11E-18 | |
| Pb210 | | 2.33E-07 | 6.06E-12 | 1.87E-16 | 5.61E-17 |

¹Argonne National Laboratory-West is not included in this table because no radionuclide data were received from the site.

RH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | ETEC | HANF | INEL | KAPL | LANL |
|---------|----------|----------|----------|----------|----------|
| Pb211 | 1.05E-16 | 1.70E-05 | 2.61E-07 | 1.35E-18 | 4.60E-07 |
| Pb212 | | 1.49E-03 | 2.65E-05 | | |
| Pb214 | | 1.16E-06 | 3.26E-10 | 1.24E-14 | 7.25E-15 |
| Pd107 | | | 3.49E-06 | | 2.83E-05 |
| Pm147 | | | 1.49E+01 | 4.34E+00 | 1.13E+01 |
| Po210 | | 2.33E-07 | 4.06E-12 | 8.21E-17 | 1.60E-17 |
| Po211 | 2.94E-19 | 4.77E-08 | 7.30E-10 | 3.78E-21 | 1.29E-09 |
| Po212 | | 9.54E-04 | 1.70E-05 | | |
| Po213 | 3.00E-18 | 5.33E-04 | 1.72E-04 | 4.02E-18 | |
| Po214 | | 1.16E-06 | 3.26E-10 | 1.24E-14 | 7.25E-15 |
| Po215 | 1.05E-16 | 1.70E-05 | 2.61E-07 | 1.35E-18 | 4.60E-07 |
| Po216 | | 1.49E-03 | 2.65E-05 | | |
| Po218 | | 1.16E-06 | 3.26E-10 | 1.24E-14 | 7.25E-15 |
| Pr144 | | | 3.93E+00 | 1.54E+00 | 1.59E-02 |
| Pu238 | | 4.67E+01 | 6.09E+01 | 9.27E-01 | 3.90E+00 |
| Pu239 | 4.00E-01 | 3.35E+02 | 2.98E+01 | 3.30E-03 | 9.28E+01 |
| Pu240 | | 1.67E+02 | 1.13E+01 | 3.10E-03 | |
| Pu241 | | 4.67E+03 | 4.82E+01 | 7.77E-01 | |
| Pu242 | | 4.92E-03 | 1.01E-03 | 1.56E-05 | |
| Pu244 | | | | | |
| Ra223 | 1.05E-16 | 1.70E-05 | 2.61E-07 | 1.35E-18 | 4.60E-07 |
| Ra224 | | 1.49E-03 | 2.65E-05 | | |
| Ra225 | 3.07E-18 | 5.45E-04 | 1.76E-04 | 4.11E-18 | |
| Ra226 | | 1.16E-06 | 3.26E-10 | 1.24E-14 | 7.25E-15 |
| Ra228 | | 1.60E-03 | 3.87E-05 | | |
| Rh106 | | | 6.64E-02 | 4.98E-01 | 3.38E-01 |
| Rn219 | 1.05E-16 | 1.70E-05 | 2.61E-07 | 1.35E-18 | 4.60E-07 |

¹Argonne National Laboratory-West is not included in this table because no radionuclide data were received from the site.

RH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | ETEC | HANF | INEL | KAPL | LANL |
|---------|----------|----------|----------|----------|----------|
| Rn220 | | 1.49E-03 | 2.65E-05 | | |
| Rn222 | | 1.16E-06 | 3.26E-10 | 1.24E-14 | 7.25E-15 |
| Ru106 | | | 6.64E-02 | 4.98E-01 | 3.38E-01 |
| Sb125 | | | 9.81E-01 | 5.33E-01 | 2.79E+00 |
| Sb126 | | | 6.35E-06 | | 5.15E-05 |
| Sb126m | | | 4.53E-05 | | 3.68E-04 |
| Se79 | | | 2.05E-05 | | 1.66E-04 |
| Sm151 | | | 7.23E-02 | | 5.82E-01 |
| Sn119m | | | 2.33E-06 | | 5.20E-07 |
| Sn121m | | | 1.36E-03 | | 1.09E-02 |
| Sn126 | | | 4.53E-05 | | 3.68E-04 |
| Sr90 | 2.62E+00 | 6.46E+03 | 1.70E+03 | 5.70E+01 | 1.24E+02 |
| Ta182 | | | 1.49E-07 | | |
| Tc99 | | | 1.18E-03 | | 9.54E-03 |
| Te125m | | | 2.39E-01 | 1.30E-01 | 6.88E-01 |
| Te127 | | | 5.78E-09 | | 1.31E-10 |
| Te127m | | | 5.91E-09 | | 1.34E-10 |
| Th227 | 1.03E-16 | 1.68E-05 | 2.57E-07 | 1.33E-18 | 4.53E-07 |
| Th228 | | 1.49E-03 | 2.65E-05 | | |
| Th229 | 3.07E-18 | 5.45E-04 | 1.76E-04 | 4.11E-18 | |
| Th230 | | 2.42E-04 | 1.37E-06 | 4.36E-11 | 5.01E-11 |
| Th231 | 4.73E-10 | 1.46E-01 | 5.41E-03 | 4.53E-12 | 8.78E-03 |
| Th232 | | 1.96E-03 | 7.51E-05 | 4.68E-21 | |
| Th234 | | 1.03E-02 | 1.38E-03 | 3.45E-15 | 2.00E-05 |
| Ti207 | 1.05E-16 | 1.70E-05 | 2.60E-07 | 1.35E-18 | 4.58E-07 |
| Ti208 | | 5.35E-04 | 9.52E-06 | | |
| Ti209 | 6.63E-20 | 1.18E-05 | 3.79E-06 | 8.88E-20 | |

¹Argonne National Laboratory-West is not included in this table because no radionuclide data were received from the site.

RH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | ETEC | HANF | INEL | KAPL | LANL |
|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| U233 | 6.55E-14 | 4.15E-01 | 3.91E-01 | 7.62E-14 | |
| U234 | | 1.29E+00 | 1.51E-01 | 4.98E-06 | 1.11E-05 |
| U235 | 4.73E-10 | 1.46E-01 | 5.41E-03 | 4.53E-12 | 8.78E-03 |
| U236 | | 8.63E-05 | 3.52E-06 | 1.24E-10 | |
| U237 | | 1.15E-01 | 1.18E-03 | 1.91E-05 | |
| U238 | | 1.03E-02 | 1.38E-03 | 3.45E-15 | 2.00E-05 |
| U240 | | | | | |
| Y90 | 2.62E+00 | 6.46E+03 | 1.70E+03 | 5.70E+01 | 1.24E+02 |
| Zr93 | | | 2.65E-04 | | 2.15E-03 |
| Zr95 | | | 2.38E-12 | | 9.64E-15 |
| TOTAL | 1.31E+01 | 3.23E+04 | 7.39E+03 | 2.43E+02 | 6.30E+02 |

| Nuclide | NTS | ORNL | SRS | SNL/NM | WVDP | TOTAL |
|---------|----------|----------|----------|----------|----------|----------|
| Ac225 | 8.80E-14 | 3.02E-01 | 2.96E-15 | 6.40E-18 | 7.44E-15 | 3.03E-01 |
| Ac227 | 9.88E-13 | 7.17E-04 | 4.20E-13 | 2.77E-20 | | 7.35E-04 |
| Ac228 | 3.63E-18 | 8.73E-02 | | | | 8.89E-02 |
| Ag110 | | | | | | 5.12E-09 |
| Ag110m | | | | | | 3.85E-07 |
| Am241 | 4.85E-01 | 2.41E+02 | 6.79E-02 | 1.02E-02 | 5.39E-01 | 4.82E+02 |
| Am243 | | 9.98E-05 | 1.60E-05 | | | 8.07E-04 |
| Am245 | | 8.61E-16 | | | | 8.61E-16 |
| At217 | 8.80E-14 | 3.02E-01 | 2.96E-15 | 6.40E-18 | 7.44E-15 | 3.03E-01 |
| Ba137m | | 9.25E+03 | 6.49E+00 | | 5.06E+01 | 1.79E+04 |
| Bi210 | | 2.39E-07 | 1.24E-16 | | 1.51E-12 | 4.72E-07 |
| Bi211 | 9.88E-13 | 7.19E-04 | 4.20E-13 | 2.77E-20 | | 7.37E-04 |
| Bi212 | 2.08E-18 | 8.51E-02 | | | | 8.66E-02 |

¹Argonne National Laboratory-West is not included in this table because no radionuclide data were received from the site.

RH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | NTS | ORNL | SRS | SNL/NM | WVDP | TOTAL |
|---------|----------|----------|----------|----------|----------|----------|
| Bi213 | 8.80E-14 | 3.02E-01 | 2.96E-15 | 6.40E-18 | 7.44E-15 | 3.03E-01 |
| Bi214 | | 1.66E-06 | 1.64E-14 | 7.34E-20 | 2.38E-11 | 2.82E-06 |
| Bk249 | | 5.94E-11 | | | | 5.94E-11 |
| C14 | | 6.12E+00 | | | | 6.15E+00 |
| Cd113m | | | | | | 1.00E-06 |
| Ce144 | | 1.20E+01 | | | | 1.75E+01 |
| Cf249 | | 1.34E-02 | | | | 1.34E-02 |
| Cf250 | 1.81E-01 | | | | | 1.81E-01 |
| Cf252 | | 3.86E+00 | | | | 3.86E+00 |
| Cm243 | | 1.48E+02 | | | | 1.48E+02 |
| Cm244 | 1.55E+02 | 9.44E+02 | 4.68E+00 | | | 1.10E+03 |
| Cm245 | | 4.39E-06 | | | | 4.39E-06 |
| Cm246 | 3.95E-04 | | | | | 3.95E-04 |
| Cm248 | | 6.14E-04 | | | | 6.14E-04 |
| Co58 | | | | | | 4.37E-11 |
| Co60 | | 6.17E+02 | | | | 9.73E+02 |
| Cr51 | | | | | | 1.08E-05 |
| Cs134 | | 9.56E+00 | | | | 6.81E+01 |
| Cs135 | | | | | | 2.15E-04 |
| Cs137 | | 9.78E+03 | 6.86E+00 | | 5.35E+01 | 1.89E+04 |
| Eu152 | | 3.66E+03 | | | | 3.66E+03 |
| Eu154 | | 1.77E+03 | | | | 1.77E+03 |
| Eu155 | | 3.51E+02 | | | | 3.53E+02 |
| Fe55 | | | | | | 5.97E-01 |
| Fr221 | 8.80E-14 | 3.02E-01 | 2.96E-15 | 6.40E-18 | 7.44E-15 | 3.03E-01 |
| Fr223 | 1.36E-14 | 9.90E-06 | 5.80E-15 | 3.82E-22 | | 1.01E-05 |
| H3 | | 7.71E-02 | | | | 2.20E-01 |

¹Argonne National Laboratory-West is not included in this table because no radionuclide data were received from the site.

RH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | NTS | ORNL | SRS | SNL/NM | WVDP | TOTAL |
|---------|----------|----------|----------|----------|----------|----------|
| Kr85 | | | | | | 5.95E+00 |
| Mn54 | | | | | | 8.31E-02 |
| Nb95 | | 2.01E+00 | | | | 2.01E+00 |
| Nb95m | | 6.72E-03 | | | | 6.72E-03 |
| Ni63 | | | | | | 3.50E+00 |
| Np237 | 3.19E-06 | 8.39E+00 | 1.43E-05 | 1.01E-08 | 1.49E-06 | 8.39E+00 |
| Np239 | | 9.98E-05 | 1.60E-05 | | | 8.07E-04 |
| Np240m | | 6.62E-11 | | | | 6.62E-11 |
| Pa231 | 6.39E-12 | 8.11E-05 | 2.67E-11 | 5.21E-19 | | 1.47E-04 |
| Pa233 | 3.19E-06 | 8.39E+00 | 1.43E-05 | 1.01E-08 | 1.49E-06 | 8.39E+00 |
| Pa234 | 3.31E-21 | 3.96E-02 | | | | 3.96E-02 |
| Pa234m | 2.54E-18 | 3.05E+01 | | | | 3.05E+01 |
| Pb209 | 8.80E-14 | 3.02E-01 | 2.96E-15 | 6.39E-18 | 7.44E-15 | 3.03E-01 |
| Pb210 | | 2.39E-07 | 1.24E-16 | | 1.51E-12 | 4.72E-07 |
| Pb211 | 9.88E-13 | 7.19E-04 | 4.20E-13 | 2.77E-20 | | 7.37E-04 |
| Pb212 | 2.08E-18 | 8.51E-02 | | | | 8.66E-02 |
| Pb214 | | 1.66E-06 | 1.64E-14 | 7.34E-20 | 2.38E-11 | 2.82E-06 |
| Pd107 | | | | | | 3.18E-05 |
| Pm147 | | | 1.34E+00 | | | 3.19E+01 |
| Po210 | | 2.39E-07 | 3.40E-17 | | 1.51E-12 | 4.72E-07 |
| Po211 | 2.77E-15 | 2.01E-06 | 1.18E-15 | 7.74E-23 | | 2.06E-06 |
| Po212 | 1.34E-18 | 5.45E-02 | | | | 5.55E-02 |
| Po213 | 8.61E-14 | 2.95E-01 | 2.89E-15 | 6.26E-18 | 7.28E-15 | 2.96E-01 |
| Po214 | | 1.66E-06 | 1.64E-14 | 7.34E-20 | 2.38E-11 | 2.82E-06 |
| Po215 | 9.88E-13 | 7.19E-04 | 4.20E-13 | 2.77E-20 | | 7.37E-04 |
| Po216 | 2.08E-18 | 8.51E-02 | | | | 8.66E-02 |
| Po218 | | 1.66E-06 | 1.64E-14 | 7.34E-20 | 2.38E-11 | 2.82E-06 |

¹Argonne National Laboratory-West is not included in this table because no radionuclide data were received from the site.

RH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | NTS | ORNL | SRS | SNL/NM | WVDP | TOTAL |
|---------|----------|----------|----------|----------|----------|----------|
| Pr144 | | 1.18E+01 | | | | 1.73E+01 |
| Pu238 | | 2.82E+01 | 8.83E+00 | 4.92E-06 | 1.98E+01 | 1.69E+02 |
| Pu239 | 2.36E+00 | 9.86E+01 | 1.06E-02 | 2.00E-06 | | 5.59E+02 |
| Pu240 | 2.54E-01 | 1.07E+00 | 5.06E-04 | | | 1.79E+02 |
| Pu241 | 6.60E-05 | 3.98E-07 | | | | 4.71E+03 |
| Pu242 | 4.27E-09 | | | | | 5.94E-03 |
| Pu244 | | 6.63E-11 | | | | 6.63E-11 |
| Ra223 | 9.88E-13 | 7.19E-04 | 4.20E-13 | 2.77E-20 | | 7.37E-04 |
| Ra224 | 2.08E-18 | 8.51E-02 | | | | 8.66E-02 |
| Ra225 | 8.80E-14 | 3.02E-01 | 2.96E-15 | 6.40E-18 | 7.44E-15 | 3.03E-01 |
| Ra226 | | 1.66E-06 | 1.64E-14 | 7.34E-20 | 2.38E-11 | 2.82E-06 |
| Ra228 | 3.63E-18 | 8.73E-02 | | | | 8.89E-02 |
| Rh106 | | 3.21E+01 | | | | 3.30E+01 |
| Rn219 | 9.88E-13 | 7.19E-04 | 4.20E-13 | 2.77E-20 | | 7.37E-04 |
| Rn220 | 2.08E-18 | 8.51E-02 | | | | 8.66E-02 |
| Rn222 | | 1.66E-06 | 1.64E-14 | 7.34E-20 | 2.38E-11 | 2.82E-06 |
| Ru106 | | 3.21E+01 | | | | 3.30E+01 |
| Sb125 | | | | | | 4.30E+00 |
| Sb126 | | | | | | 5.78E-05 |
| Sb126m | | | | | | 4.13E-04 |
| Se79 | | | | | | 1.86E-04 |
| Sm151 | | | | | | 6.55E-01 |
| Sn119m | | | | | | 2.85E-06 |
| Sn121m | | | | | | 1.23E-02 |
| Sn126 | | | | | | 4.13E-04 |
| Sr90 | | 3.53E+04 | 6.85E+00 | | 1.96E+01 | 4.36E+04 |
| Ta182 | | | | | | 1.49E-07 |

¹Argonne National Laboratory-West is not included in this table because no radionuclide data were received from the site.

RH-TRU Curies on a Site-by-Site Basis (continued)

| Nuclide | NTS | ORNL | SRS | SNL/NM | WVDP | TOTAL |
|---------------|----------|----------|----------|----------|----------|----------|
| Tc99 | | | | | | 1.07E-02 |
| Te125m | | | | | | 1.06E+00 |
| Te127 | | | | | | 5.91E-09 |
| Te127m | | | | | | 6.04E-09 |
| Th227 | 9.74E-13 | 7.09E-04 | 4.14E-13 | 2.73E-20 | | 7.27E-04 |
| Th228 | 2.08E-18 | 8.51E-02 | | | | 8.66E-02 |
| Th229 | 8.80E-14 | 3.02E-01 | 2.96E-15 | 6.40E-18 | 7.44E-15 | 3.03E-01 |
| Th230 | | 6.64E-04 | 1.13E-10 | 2.54E-16 | 1.92E-08 | 9.07E-04 |
| Th231 | 3.71E-08 | 5.53E-01 | 1.26E-06 | 9.85E-15 | | 7.13E-01 |
| Th232 | 1.24E-17 | 9.92E-02 | 1.24E-22 | | | 1.01E-01 |
| Th234 | 2.54E-18 | 3.05E+01 | | | | 3.05E+01 |
| Ti207 | 9.85E-13 | 7.17E-04 | 4.19E-13 | 2.76E-20 | | 7.35E-04 |
| Ti208 | 7.49E-19 | 3.06E-02 | | | | 3.11E-02 |
| Ti209 | 1.90E-15 | 6.52E-03 | 6.39E-17 | 1.38E-19 | 1.61E-16 | 6.54E-03 |
| U233 | 1.40E-10 | 4.36E+02 | 6.26E-11 | 6.67E-14 | 2.76E-11 | 4.36E+02 |
| U234 | 2.02E-23 | 1.02E+01 | 2.51E-05 | 2.81E-11 | 4.94E-04 | 1.17E+01 |
| U235 | 3.71E-08 | 5.53E-01 | 1.26E-06 | 9.85E-15 | | 7.13E-01 |
| U236 | 5.24E-08 | 2.82E-01 | 7.54E-12 | | | 2.82E-01 |
| U237 | 1.62E-09 | 9.74E-12 | | | | 1.16E-01 |
| U238 | 2.54E-18 | 3.05E+01 | | | | 3.05E+01 |
| U240 | | 6.62E-11 | | | | 6.62E-11 |
| Y90 | | 3.53E+04 | 6.85E+00 | | 1.96E+01 | 4.36E+04 |
| Zr93 | | | | | | 2.41E-03 |
| Zr95 | | 9.06E-01 | | | | 9.06E-01 |
| Total by Site | 1.58E+02 | 9.81E+04 | 4.20E+01 | 1.02E-02 | 1.64E+02 | 1.39E+05 |

¹Argonne National Laboratory-West is not included in this table because no radionuclide data were received from the site.

RH-TRU Curies on a Site-by-Site Basis (continued)

ABBREVIATIONS

ETEC Energy Technology Engineering Center
HANF Hanford
INEL Idaho National Engineering Laboratory
KAPL Knolls Atomic Power Laboratory
LANL Los Alamos National Laboratory
NTS Nevada Test Site
ORNL Oak Ridge National Laboratory
SRS Savannah River Site
SNL/NM Sandia National Laboratory-Albuquerque
WVDP West Valley Demonstration Plant

¹Argonne National Laboratory-West is not included in this table because no radionuclide data were received from the site.

APPENDIX D

Sandia National Laboratories

Managed and Operated by Sandia Corporation
a Lockheed Martin Corporation
Albuquerque, New Mexico 87185-1328

date : June 20, 1996

to : Russ Bisping (DOE/NTP/CAO)

from : *L. C. Sanchez* L. C. Sanchez, Org 6848, MS-1328, PH-(505)848-0685, Fax-848-0705

subject : Correction for Cf252 Decayed Inventory

Per a request from the TWBIR Team [CH-1], a detailed check was made on the data that was used to perform decay calculations for the stored Cf252 inventory from the Hanford site [SNL-1]. The result of the data check was that the undecayed Cf252 stored CH-TRU inventory for the year 1982 should be 1.08E-03 Ci. The value that was erroneously used for the decay calculations was 1.08E+03 Ci. This means that the Cf252 and its principal decay daughters (Cm248 and Pu240) are overestimated (see Table 1). The WIPP disposal radionuclide inventory in the electronic database should be adjusted to correct these errors. Since Cf252 has a half-life less than 20 yr and the buildup (ingrowth) activities of Cm248 and Pu240 are very small, they have a negligible effect on the EPA Unit calculations (i.e., activity loading) – they represent a change in the calculated EPA Unit of less than one part in a million (see Table 4 of Ref. SNL-3). Thus, it is not necessary for SNL WIPP PA CCA calculations to re-adjust the activity loading values presented in Refs. CCA-2 and CCA-3.

| Table 1. Activity Calculations Performed With Analytical Solution to BATEMAN Equation (a) | | | | |
|---|----------------------|----------------------------|--|--------------------------------------|
| Nuclide | | | Solution Using Analytical Solution to Bateman Equation, Decayed to the Year 1995 | |
| ID (b) | Decay Mode (c) | Half- Life [sec] (d) | Existing Inventory [Curies] (e) | Correct Inventory [Curies] (f) |
| Cf252 | α, γ, SF | 8.3250E+07 | 3.5482E+01 (g) | 3.5482E-05 |
| Cm248 | α, SF | 1.0700E+13 | 8.1266E-03 (h) | 8.1266E-09 |
| Pu240 | α, γ, SF | 2.0630E+11 | 8.2980E-06 (i) | 8.2980E-12 |

- (a) Calculations correspond only to the 1982 inventory of stored Cf252 at Hanford for CH-TRU. These values indicated that the decay calculations of Ref. SNL-1 overestimated the inventory (on a WIPP-Scale basis) of Cf252 (and to an lesser extent for the first two daughters of Cf252, namely - Cm248 and Pu240). The calculations presented here correspond to 1.08E+03 Ci for the "Existing Inventory" and 1.08E-03 Ci for the "Correct Inventory" at year = 1982 for the undecayed stored Hanford CH-TRU. The Existing Inventory value was that value used in Ref. SNL-1. Activity values presented here for Cm248 and Pu240 correspond only to ingrowth activities from Cf252 only.

Exceptional Service in the National Interest

- (b) Radionuclides are Cf252 and its first two daughters (these are incorporated into the WIPP PA database to yield Ref. CCA-2).
- (c) Decay mode information taken from Ref. GE-1.
- (d) Half-life values are those incorporated in ORIGEN2, see Ref. SNL-2.
- (e) "Existing Inventory" values correspond to 1982 Hanford CH-TRU inventory (originating from Cf252) decayed to the base year of 1995. The undecayed Cf252 inventory was $1.08\text{E}+03$. Decay calculations were performed using Ref. KA-1b.
- (f) "Correct Inventory" values correspond to 1982 Hanford CH-TRU inventory (originating from Cf252) decayed to the base year of 1995. The undecayed Cf252 inventory was $1.08\text{E}+03$. Decay calculations were performed using Ref. KA-1b.
- (g) Using this value in the TWBID resulted in a total decayed WIPP-Scale stored Cf252 inventory of 36.1 Ci [Ref. CH-2] (98.3 % of this value was from the incorrect value from the 1982 Hanford inventory). Thus, correcting the undecayed 1982 Hanford value for Cf252 will result in a substantial lowering of the stored and projected inventory of Cf252. Since Cf252 has a half-life less than 20 yr, it does not contribute to the EPA Unit value and does not effect WIPP PA CCA calculations.
- (h) Using this ingrowth value in the TWBID resulted in a total decayed WIPP-Scale stored Cm248 inventory of $3.35\text{E}+02$ Ci [Ref. CH-2] (24.3 % of this value was from the incorrect value from the 1982 Hanford inventory). Thus, correcting the undecayed 1982 Hanford value for Cf252 will result in a substantial lowering of the stored and projected inventory of Cm248. Since the total activity change due to the ingrowth of Cm248 from Cf252 is very small it has a negligible contribution to the EPA Unit (see Table 4 of Ref. SNL-3) and does not affect PA calculations.
- (i) Using this ingrowth value in the TWBID resulted in a total decayed WIPP-Scale stored Cm248 inventory of $6.87\text{E}+04$ Ci [Ref. CH-2] (less than $2.0\text{E}+08$ % of this value was from the incorrect value from the 1982 Hanford inventory). Thus, correcting the undecayed 1982 Hanford value for Cf252 will result in a negligible lowering of the stored and projected inventory of Pu240 (or any further decay daughters from Cf252). Since the total activity change due to the ingrowth of Pu240 from Cf252 is very small it has a negligible contribution to the EPA Unit (see Table 4 of Ref. SNL-3) and does not affect PA calculations.

REFERENCES

[CCA-2]

DOE (U.S. Department of Energy), CAO Memorandum from: Don Watkins (Manager, National TRU Program); to: Les E. Shephard (SNL/NM Director, Nuclear Waste Management Programs Center); Subject: "Revised Radionuclide Data in Support of the Compliance Certification Application"; Dated: June 4, 1996; CAO:NTP:RBL:96-1174.

[CCA-3]

DOE (U.S. Department of Energy), CAO Memorandum from: Don Watkins (Manager, National TRU Program); to: Dr. Les E. Shephard (Nuclear Waste Management Programs Center Director, SNL/NM); Subject: "Preliminary Activities for Selected Radionuclides for CH-TRU Waste Streams"; dated: June 12, 1996. Data originally presented in: Personal communications S. Chakraborti (SAIC/CTAC); May 1, 1996.

[CH-1] Personal communications (phone) with Sayan Chakraborti (SAIC/CTAC); Subject: "Error in Cf252 Inventory"; date: June 19, 1996.

[CH-2] Personal communications (fax) from Sayan Chakraborti (SAIC/CTAC); Subject: "Stored and Projected WIPP Total Curies"; date: April 19, 1996.

[GE-1] General Electric Company (Nuclear Energy Operations), Nuclides and Isotopes, Fourteenth Edition, 1989.

[KA-1] I. Kaplan; Nuclear Physics (Second Edition); Addison-Wesley Publishing Company; Reading, Massachusetts, 1964.

[KA-1b]

Ibid., Equations 10-26 and 10-27, pg. 243.

[SNL-1]

Sandia National Laboratories; "WIPP PA Analysis Report for ORIGEN2 Suite", Document Version 1.00, WBS # 1.1.6.1, April 22, 1996; SWCF-A:1.4.01.6:SFT:QA:ORIGEN2 Suite.

[SNL-2]

Sandia National Laboratories; Memo from: L.C. Sanchez (Org 6741), to: M. Martell (Org 6749); Subject: "Radionuclide Half-lives and Specific Activities Obtained From ORIGEN2 Data"; dated: March 28, 1996.

[SNL-3]

Sandia National Laboratories; Memo from: L.C. Sanchez (Org 6741), to: Distribution; Subject: "Identification of Important Radionuclides Used in 1996 CCA WIPP Performance Assessment"; dated: April 25, 1996.

LCS:6848:lcs/(96-2113)

Copy to:

Sayan Chakraborti [SAIC/CTAC]

Paul Drez [DEA/CTAC]

MS-1328, H. Jow [Dept. 6848]

MS-1328, J. Garner [Dept. 6849]

MS-1328, Day File [Dept. 6848]

MS-1328, L.C. Sanchez [Dept. 6848]

File - SWCF-A WBS 1.1.6.2; PA; PBWAC - WIPP ACTIVITY



GARY E. JOHNSON
GOVERNOR

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2044 Galisteo
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(505) 827-1557
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MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

November 2, 1995

Mr. George Dials, Manager
Carlsbad Area Office
Department of Energy
P. O. Box 3090
Carlsbad, New Mexico 88221

Dear Mr. Dials:

**RE: Waste Isolation Pilot Plant (WIPP) Part B Application: Request
for Information, Chapters A, B, and C**

The New Mexico Environment Department (NMED) has completed its technical review of the Part B WIPP permit application Chapters A (Part A Application), B (Facility Description), and C (Waste Analysis Plan).

In general, Chapters B and C of the permit application lack necessary and important detailed information required for the development of the draft permit. In particular, the Waste Analysis Plan presented as Chapter C of the WIPP Part B permit application, Revision 5, is critical to the development of the draft permit and seriously lacks necessary detail. Our concerns relative to Chapters A, B, and C are articulated in both General and Specific Comments presented in the attached documents. The General Comments for Chapter C also identify those Specific Comments that support the General Comment being discussed.

As stated at the October 26 meeting with DOE/WID representatives on these chapters, a response submission on or before November 9, 1995, is preferred. Submit your responses on a WordPerfect 5.2 floppy reflecting the changes requested to the various pages and sections only (unless the information requested indicated an entire new document or chapter). Indicate all changes with strikeout and redline notation, and include a paper copy of same.

If you believe additional meetings or conference calls are required to discuss the requested information, especially considering the volume of information requested, please do not hesitate to call before the November 9 meeting. Also, if you choose not to submit

Mr. George Dials
Page 2
November 2, 1995

an early response, the request for information detailed in this letter and any other outstanding issues remaining on December 12, 1995, will be addressed in the form of a Notice of Deficiency (NOD).

Thank you for your cooperation in this permitting process. If you have any questions, please contact Mr. Steve Zappe of my staff at (505) 827-4308.

Sincerely,



Barbara Hoditschek, RCRA Permits Program Manager
Hazardous and Radioactive Materials Bureau

Enclosures

cc: Benito J. Garcia, HRMB
Susan McMichael, NMED
Bob Kehrman, WID (including comments on floppy)
Craig Snider, DOE
David Neleigh, EPA Region 6
Reid Rosnick, EPA OSW
Connie Walker, A.T. Kearney
WIPP File - Red '95

- aged at
9. Chapter C, C-1 Facility Description, Section C-1b, Facility Description, Identification of TRU Mixed Waste Managed at the WIPP Facility, Page C-9, Lines 8-11.

The permit application implies that 20 NMAC 4.1 Subpart VIII, §268.2(g) requires visual inspection to determine whether a waste is considered to be debris. However, the permit application also indicates that visual inspection will not be conducted for all drums suspected of containing debris wastes, implying that this regulatory requirement will not be met. Revise the permit application to clarify the regulatory requirement for visual examination.

10. Chapter C, C-1 Facility Description, Section C-1b, Identification of TRU Mixed Waste Managed at the WIPP Facility, Page C-9, Lines 24-28.

The permit application indicates that a waste summary category for "special wastes" has been designated. However, Table C-1 indicates only one unique waste stream falls under this category (RF-W028), which could also be included under summary category group S5000, debris waste. Revise the permit application to provide more detail regarding why this grouping is necessary, including more detail regarding specific anticipated waste streams.

11. Chapter C, C-1 Facility Description, Section C-1b, Identification of TRU Mixed Waste Managed at the WIPP Facility, Pages C-10 to C-11.

The permit application presents an abbreviated discussion of hazardous constituents present within WIPP waste, indicating that these have been determined, primarily, through the use of acceptable knowledge (process knowledge). This would imply that summary analytical data are not available. 20 NMAC 4.1, Subpart IX 270.14(b) requires "chemical and physical analyses of the hazardous waste and hazardous debris to be handled at the facility. At a minimum, these analyses shall contain all the information which must be known to treat, store, or dispose of the waste properly in accordance with Part 264 of this chapter." While it is understood that the applicant believes acceptable knowledge can be used to characterize waste, confirmation that the processes identified indeed contain the identified hazardous waste is required. Revise the permit application to include summary tables presenting waste analyses information acquired to date. Prepare these tables in a format that can be readily compared with Table C-1, so that a summary understanding of available waste analyses information for each waste stream unique ID can be achieved. Reference additional documentation for any detailed or backup information as necessary.

12. Chapter C, C-1 Facility Description, Section C-1b, Identification of TRU Mixed Waste Managed at the WIPP Facility, Page C-11, Lines 9-10.

The permit application states that "headspace-gas volatile organic compounds (VOC) concentrations resulting in emissions not protective of human health and the environment" will not be accepted. This criteria is very vague, and does not state the specific concentration values or other limitations that must be met to meet this standard. Revise the permit application to include the specific information that is required to meet this demonstration. This is particularly important, since this information is critical to determining whether the WIPP can meet performance standards established for Subpart X units described in 20 NMAC 4.1 Subpart V, Part 264.601. The WIPP Waste Acceptance Criteria, December, 1991 (WIPP-DOE-069) provides requirements for compliance with RCRA relative to headspace gas analyses, including flammability assessments, but these values were developed in response to conditional Test Phase No Migration requirements. Revise the permit application to indicate whether DOE intends to maintain these criteria during the operational phase.

COMMENTS: TABLES AND FIGURES

106. Chapter C, Table C-1, Pages C-33 through C-72.

Refer to Attachment A for detailed commentary regarding table contents. Also revise the table to address the following:

- Footnote d indicates that reactive, ignitable, or corrosive characteristics were previously identified for some Table C-1 waste streams, but these are no longer identified with the waste stream. Revise the permit application to address, on a unique waste stream (facility specific) basis, why this has occurred.
- Footnote e indicates that EPA hazardous waste codes were not reported by the generator at this time. Is this because generator sites have not completed their process knowledge analysis, or because the generator sites did not believe hazardous wastes were present? Clarify why the codes were not reported at this time.

107. Chapter C, Table C-2, pages C-73 through C-74.

Several chemicals are listed as not being Hazardous Constituents (20 NMAC 4.1, Subpart II, Appendix VIII) when in fact they are. Revise Table C-2 to indicate the following chemicals are listed in Appendix VIII: 2-Ethoxyethanol, Isobutanol, 1,2-Dichloroethane, and 1,1,1-Trichloroethane.

108. Chapter C, Table C-3, Page C-75.

This table indicates that the majority of screening mechanisms to ensure reactive wastes are not included in WIPP TRU-mixed waste are based upon process knowledge, and goes on to indicate that Appendix C1 shows most of the reactions will not occur. However, numerous questions have been raised regarding the contents of Appendix C1, including whether the incompatibilities identified by the comparison process are indeed resolved by the indicated methods, particularly when the incompatibility assessment indicates that additional test information is required. Further, the potential for explosive conditions to develop in the subsurface has not been addressed (See General Comment No.2). After addressing text commentary on these issues, revise Table C-3 accordingly.

109. Chapter C, Table C-4, Pages C-77 through C-79.

Table C-4 indicates that the purpose of RTR or visual examination is to verify waste matrix, but the purpose should also include verification of process knowledge (which is not necessarily inherent when verifying waste matrix). Additionally, this table states that RTR or visual examination will take place for CH TRU-mixed stored homogenous solids and soils and gravel waste, while Figures C-1 and C-2 indicate that all drums of retrievably stored waste will undergo RTR. Also, a purpose of headspace gas analyses - particularly TIC identification - is to identify hazardous constituents within the waste and to use this information to confirm process knowledge. It is also unclear whether determining "total quantities" of constituents includes the determination of the presence of individual metals, SVOCs, etc. Revise the permit application to address these issues.

110. Chapter C, Tables C-2, C-5 and C-6, Pages C-73, C-74, C-80, C-81 and C-82.

DOE has listed 33 organic (when counting xylenes and cresols as one each) and nine inorganic parameters of interest in Table C-2. Table C-5 presents a summary of hazardous waste characterization requirements for TRU mixed waste. Under the heading of Headspace Gases, DOE has listed 14 flammable VOCs and seven non-flammable VOCs (a total of 21 constituents). Revise the permit application to explain why



Department of Energy

Carlsbad Area Office

P. O. Box 3090

Carlsbad, New Mexico 88221

DEC 20 1995

**Mr. Benito Garcia
New Mexico Environmental Department
Hazardous & Radioactive Materials Bureau
P.O. Box 26110
Santa Fe, N.M. 87502**

Dear Mr. Garcia:

Please find enclosed the response to your comments on Chapters C and G of the Waste Isolation Pilot Plant Resource Conservation and Recovery Act (RCRA) Part B application. We received your comments on these chapters on November 3, 1995, and December 1, 1995, respectively.

Our responses are transmitted to you in draft format and also contain the redline/strikeout version of the text in both hard copy and on floppy disk in accordance with your request. Additionally, to facilitate your review of our responses, Steve Zappe of your staff has authorized us to provide our responses directly to A. T. Kearney, Inc.

This transmittal completes our draft responses to your technical review comments. We will submit in final redline/strikeout form, on January 17, 1996, all revisions made in response to your comments to our RCRA Part B application. As I indicated in previous transmittal letters, we anticipate meeting with you and your technical staff to discuss our responses to your comments on January 8 and 9, 1996. We will be coordinating this meeting with your staff in the near future..

If you have any questions, please do not hesitate to contact me at (505) 234-7486 or Craig Snider at (505) 234-7452.

Sincerely,

James A. McFadden
**for Michael H. McFadden
Assistant Manager
Office of Regulatory Compliance**

Enclosure



Printed on recycled paper

Benito García

- 2 -

DEC 20 1995

cc w/enclosure:

C. Walker, A.T. Kearney, Inc.

cc w/o enclosure:

J. Mewhinney, CAO

C. Snider, CAO

K. Day, WID

The application has been modified to clarify the DOE's interpretation of this regulation. A paragraph has been added to Section C-1b to read: "Due to the presence of radioactive constituents in the waste and the safety of hazards involved in opening waste containers, the DOE has opted to use radiography as a visual examination of waste form (visual inspection as it is referred to in this regulation). For these reasons, RTR will be used on 100% of stored waste containers to determine the physical composition of debris mixtures. The percentage of debris in mixtures of newly-generated waste will be determined by visual examination during packaging."

10. Chapter C, C-1 Facility Description, Section C-1b, Identification of TRU Mixed Waste Managed at the WIPP Facility, Page C-9, Lines 24-28.

The permit application indicates that a waste summary category for "special wastes" has been designated. However, Table C-1 indicates only one unique waste stream falls under this category (RF-W028), which could also be included under summary category group S5000, debris waste. Revise the permit application to provide more detail regarding why this grouping is necessary, including more detail regarding specific anticipated waste streams.

RESPONSE

The summary category for Special Waste (S7000) has been deleted from the application, and the waste stream that was included in that summary category will be reassigned to a new summary category prior to acceptance at the WIPP.

The application has been modified throughout to delete all references to Special Waste as a summary category.

11. Chapter C, C-1 Facility Description, Section C-1b, Identification of TRU Mixed Waste Managed at the WIPP Facility, Pages C-10 to C-11.

The permit application presents an abbreviated discussion of hazardous constituents present within WIPP waste, indicating that these have been determined, primarily, through the use of acceptable knowledge (process knowledge). This would imply that summary analytical data are not available. 20 NMAC 4.1, Subpart IX 270.14(b) requires "chemical and physical analyses of the hazardous waste and hazardous debris to be handled at the facility. At a minimum, these analyses shall contain all the information which must be known to treat, store, or dispose of the waste properly in accordance with Part 264 of this chapter." While it is understood that the applicant believes acceptable knowledge can be used to characterize waste, confirmation that the processes identified indeed contain the identified hazardous waste is required. Revise the permit application to include summary tables presenting waste analyses information acquired to date. Prepare these tables in a format that can be readily compared with Table C-1, so that a summary understanding of available waste

analyses information for each waste stream unique ID can be achieved. Reference additional documentation for any detailed or backup information as necessary.

RESPONSE

Acceptable knowledge will be confirmed using headspace gas analysis, radiography, and visual examination. For F-listed waste, acceptable knowledge is the primary source of waste characterization information since the assignment of an F-listed code cannot be done through sampling and analysis. However, the results of headspace gas analysis will be used to verify F-listed codes.

The application has been modified in the text to clarify the use of other analyses to verify acceptable knowledge, and discussions of acceptable knowledge have been added to Section C-4 and Appendix C9.

12. Chapter C, C-1 Facility Description, Section C-1b, Identification of TRU Mixed Waste Managed at the WIPP Facility, Page C-11, Lines 9-10.

The permit application states that "headspace-gas volatile organic compounds (VOC) concentrations resulting in emissions not protective of human health and the environment" will not be accepted. This criteria is very vague, and does not state the specific concentration values or other limitations that must be met to meet this standard. Revise the permit application to include the specific information that is required to meet this demonstration. This is particularly important, since this information is critical to determining whether the WIPP can meet performance standards established for Subpart X units described in 20 NMAC 4.1 Subpart V, Part 264.601. The WIPP Waste Acceptance Criteria, December, 1991 (WIPP-DOE-069) provides requirements for compliance with RCRA relative to headspace gas analyses, including flammability assessments, but these values were developed in response to conditional Test Phase No Migration requirements. Revise the permit application to indicate whether DOE intends to maintain these criteria during the operational phase.

RESPONSE

The limitations that must be met in order to be protective of human health and the environment have been provided in Table C-5. These limits were derived from the results of the risk assessment, provided in Appendix D9, and will ensure compliance with the environmental performance standards. Appendix D9 includes calculations used to derive the numbers in Table C-5.

COMMENTS: TABLES AND FIGURES

106. Chapter C, Table C-1, Pages C-33 through C-72.

Refer to Attachment A for detailed commentary regarding table contents. Also revise the table to address the following:

- Footnote d indicates that reactive, ignitable, or corrosive characteristics were previously identified for some Table C-1 waste streams, but these are no longer identified with the waste stream. Revise the permit application to address, on a unique waste stream (facility specific) basis, why this has occurred.
- Footnote e indicates that EPA hazardous waste codes were not reported by the generator at this time. Is this because generator sites have not completed their process knowledge analysis, or because the generator sites did not believe hazardous wastes were present? Clarify why the codes were not reported at this time.

RESPONSE

Refer to Attachment A for detailed responses to Table C-1 comments.

- The generator sites report all materials that comprise a waste stream. However, the final form of the waste stream is such that reactive, ignitable, or corrosive characteristics are removed. For example, acids are neutralized in cement sludges. As stated in Chapter C of the Part B Permit, wastes possessing reactive, ignitable, or corrosive characteristics are not permitted at WIPP. Footnote d on Table C-1 is simply a reminder that if the waste possesses the above characteristics, it will not be accepted at WIPP unless treated to remove these characteristics.
- Footnote e does reflect incomplete process knowledge at this time. The content of these waste streams will be updated as information becomes available in future revisions of the WTWBIR. Table C-1 reflects the most complete information available at this time.

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107. Chapter C, Table C-2, pages C-73 through C-74.

Several chemicals are listed as not being Hazardous Constituents (20 NMAC 4.1, Subpart II, Appendix VIII) when in fact they are. Revise Table C-2 to indicate the following chemicals are listed in Appendix VIII: 2-Ethoxyethanol, Isobutanol, 1,2-Dichloroethane, and 1,1,1-Trichloroethane.



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EDGAR T. THORNTON, III
DEPUTY SECRETARY

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

March 14, 1996

Mr. George Dials, Manager
Carlsbad Area Office
Department of Energy
P. O. Box 3090
Carlsbad, New Mexico 88221

Mr. Joe Epstein, General Manager
Westinghouse Electric Corporation
P.O. Box 2078
Carlsbad, New Mexico 88220

Dear Messrs. Dials and Epstein:

**RE: Notice of Deficiency (NOD) - Technical Adequacy Review of WIPP RCRA
Part B Permit Application Revision 5.2, January 17, 1996.
EPA ID No. NM4890139088**

The Hazardous and Radioactive Materials Bureau (HRMB) of the New Mexico Environment Department (NMED) has reviewed, for technical adequacy, the January 17, 1996 joint disposal permit application from the U.S. Department of Energy (DOE) and Westinghouse for the Waste Isolation Pilot Plant (WIPP). This application is required under the Resource Conservation and Recovery Act (RCRA), as incorporated within the New Mexico Hazardous Waste Management Regulations, 20 NMAC 4.1. The current application describes disposal of transuranic mixed waste in underground hazardous waste management units (HWMUs) and storage of transuranic mixed waste at surface container storage HWMUs.

After reviewing the permit application, HRMB has found the application to be technically deficient. The enclosed attachment lists the requested information necessary for HRMB to begin preparation of a draft permit. The attachment contains numerous requests for specific information from most chapters of the application. Listed below are the general areas of significant deficiency which must be addressed:

1. **Waste characterization:**
 - clarify contact-handled waste characterization procedures
 - provide extensive, detailed information on remote-handled waste characterization procedures

2. **Risk assessment:**

- re-evaluate the point of compliance based on maximally exposed individuals or populations at risk
- assess the impacts of a major RCRA constituent release at the point of compliance
- provide more specific information describing ground control and geomechanical monitoring programs

3. **Monitoring plans:**

- provide plans for monitoring potential air releases of RCRA constituents during disposal operations
- provide plans for monitoring potential groundwater releases of RCRA constituents during post-closure
- ensure both air and groundwater monitoring programs include provisions to establish background levels of RCRA constituents to be disposed at WIPP;

4. **Closure plans:**

- clarify some aspects of the closure plan, such as contingency closure
- submit final shaft seal designs

Submit the information listed in the attachment to HRMB within thirty (30) days of receipt of this NOD. Failure to submit the information within this designated time may result in the issuance of a compliance order with associated fines. We understand some information listed in this NOD may require more than 30 days to develop. For this reason, HRMB will consider a petition to extend the deadline for portions of the required information if you provide a written justification and expected submittal date for each portion.

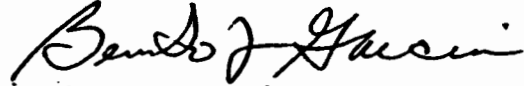
Also included as an enclosure are comments on the "Transuranic Waste Characterization Sampling and Analysis Methods Manual". Although this document was not submitted with the permit application, HRMB has identified concerns within the Methods Manual which must be addressed before it becomes acceptable as a reference or appendix to the permit application. HRMB believes this revised Methods Manual should be adopted by reference into the application.

Mr. Michael McFadden, in a letter from DOE on January 25, 1996, requested an opportunity to meet with HRMB to discuss responses to earlier requests for information on the application. HRMB response of February 8, 1996 suggested that such a meeting would be better suited after the NOD was issued. HRMB would welcome a request from DOE and Westinghouse for further meetings to clarify the NOD on the application.

Messrs. Dials and Epstein
Page 3
March 14, 1996

If you have any questions about this NOD, please contact Ms. Barbara Hoditschek, Mr. Steve Zappe, or me at (505) 827-1561.

Sincerely,



Benito J. Garcia
Chief, Hazardous & Radioactive Materials Bureau

Enclosures

cc: Ed Kelley, NMED
Barbara Hoditschek, HRMB
Steve Zappe, HRMB
Susan McMichael, NMED OGC
Karen Day, WID (including documents on floppy)
Craig Snider, DOE
David Neleigh, EPA Region 6
Matt Hale, EPA OSW
Victor Sgobba, GAO
Connie Walker, A.T. Kearney
Lindsay Lovejoy, NMAG
Don Hancock, SRIC
WIPP File - Red '95

stream batch and waste stream lot. The permit application implies in Section C5 that full characterization of an entire waste stream will be accomplished prior to filling out of the Waste Profile Form. However, this is not presented in Section C-1. Revise the permit application to clarify whether a Waste Profile Form will be prepared for a subset of a given waste stream before full headspace gas and radiographic characterization of the entire waste stream. If this is the case, revise the permit application to indicate how the number of drums deemed sufficient to fill out a Waste Profile Form is determined.

5. **Chapter C, C-1 Facility Description, Section C-1b, Identification Of TRU Mixed Waste Managed at the WIPP Facility, Page C-11, Lines 40-43, Page C-12 Lines 1-33.** The permit application includes brief summaries of the waste summary categories proposed for acceptance at WIPP. However, these discussions are too general and must include more detailed discussion of waste within these categories, including waste parameters, waste streams and anticipated hazardous waste, as well as examples of hazardous constituents. Specific attention must be paid to the hazardous waste potentially present within each Waste Summary Category. Revise the text of the permit application to include this information.
- 6.* **Chapter C, C-1 Facility Description, Section C-1b, Identification Of TRU Mixed Waste Managed at the WIPP Facility, Page C-12, Lines 35-43, Page C-13, Lines 1-2.** Radiography is incorrectly equated to visual examination, but the application elsewhere clearly delineates between the two activities. Both are forms of visual inspection, as referred to in the regulations. Revise this section of the application to use these terms in a precise manner, and include their definitions in the glossary.
- 7.* **Chapter C, C-1 Facility Description, Section C-1b, Identification Of TRU Mixed Waste Managed at the WIPP Facility, Page C-15, Lines 6-7.** Free liquids are acceptable at WIPP in the form of residual liquids within containers. Revise this section to state that liquid waste is unacceptable for management at WIPP.
8. **Chapter C, C-1 Facility Description, Section C-1b, Identification of TRU Mixed Waste Managed at the WIPP Facility, Page C-15, Lines 15-16.** The permit application states that "headspace-gas volatile organic compounds (VOC) concentrations resulting in emissions not protective of human health and the environment" will not be accepted. The permit application does not indicate, in this location, where these values are presented within the permit application. Table C-5 appears to present this information, but the table does not indicate where, within the permit application, the background calculations are included to derive the information presented in this table. Revise this section of the permit application to reference Table C-5, and include a reference in Table C-5 as to where supporting calculations are included. Also refer to comments on Table C-5 and Appendix D9.
- 9.* **Chapter C, Section C-1d, Description of HWMUs, Page C-22, Lines 16-19.** This section incorrectly implies only one surface HWMU has been designated. Revise this section to be consistent with the description of all container storage HWMUs described in Section B-1b(1) and Section D-1a(1).
10. **Chapter C, Section C-2b, Criteria and Rationale for Parameter Selection, Page C-24, Lines 12-14.** The permit application states "Documented acceptable knowledge will be used to determine the types and quantities of listed and toxicity characteristic waste that cannot be directly sampled for total metals or total organics." However, a detailed discussion and supporting documentation are not provided to justify the use of acceptable knowledge for

**WIPP PART B PERMIT APPLICATION REVIEW
WASTE ANALYSIS PLAN**

APPENDIX C1

GENERAL COMMENTS

- 1.* Provide the cross reference to Appendix C11 for the WIPP Generator/Storage Site Waste Screening and Acceptance Audit Program.
2. The permit application compatibility assessment does not address a number of waste streams presented on Table C-2. Revise the compatibility portion of the permit application to provide justification of this exclusion, particularly those waste streams identified with "d" and "e" superscripts on Table C-2, which presumably provide information helpful to the exclusion. Additionally, waste streams RL-M007, RL-M017, and IN-W291 are discussed on Table C-2 but are not addressed within Appendix C1 and do not have any potential designators that could explain the waste stream's exclusion from Appendix C1. Revise the permit application to address the omissions of these waste streams from the compatibility assessment.
2. Revision 5.0 of the permit application included numerous references to test information that was to provide insight to the compatibility assessments. However, all references to these tests have been removed from Revision 5.2 of the permit application. Omission of these data do not answer the question as to whether the planned tests provided data to support the compatibility assessment. Revise the permit application to specifically discuss the tests which would provide information important to the compatibility assessment.

* - New NOD Comment

RECEIPT

I acknowledge receipt of the following materials from the U.S. Department of Energy:

5 copies of Revision 6 of DOE/WPP 91-005 entitled "Resource Conservation and Recovery Act Part B Permit Application" for the Waste Isolation Pilot Plant

5 copies of "Responses to New Mexico Environment Department Notice of Deficiency Dated March 14, 1996"

Disks containing the revised permit application (Redline/Strikeout and Final)

Signed:

Bert J. Garcia

for the New Mexico Environment Department

Date:

4/12/96

Response

This statement was not removed just relocated to Section C-1b. The paragraph states: "The DOE will only allow generators to ship those waste streams with EPA Hazardous Waste Codes listed on Part A of this application. Characterization of all waste streams will be performed as required by this WAP. If during the characterization process, new hazardous waste codes are identified, those waste cannot be accepted for disposal at the WIPP facility until a permit modification has been submitted and approved. Similar waste streams at other generator sites will be examined more closely to ensure that the newly identified codes do not apply. If other waste streams also require a new hazardous waste code, shipment of these waste streams will also cease until a permit modification has been submitted and approved. Approval will be based on the physical and chemical properties of the waste."

4. **Chapter C, C-1 Facility Description, Section C-1b, Identification of TRU Mixed Waste Managed at the WIPP Facility, Page C-10, Lines 22-28.** The WAP indicates in this section that each waste stream will be accompanied by a waste profile form, but does not indicate whether each waste stream within each shipment will have the form, or if the form will be presented once for each waste stream. Also, it is not clear whether each waste stream batch or waste stream lot will have a unique waste profile form. Revise the permit application to indicate that the Waste Profile Form will be provided once for a given site-specific waste stream, that the Waste Profile Form will be provided with each shipment of a given waste stream, and/or that the Waste Profile Form will be provided for each waste stream batch and waste stream lot. The permit application implies in Section C5 that full characterization of an entire waste stream will be accomplished prior to filling out of the Waste Profile Form. However, this is not presented in Section C-1. Revise the permit application to clarify whether a Waste Profile Form will be prepared for a subset of a given waste stream before full headspace gas and radiographic characterization of the entire waste stream. If this is the case, revise the permit application to indicate how the number of drums deemed sufficient to fill out a Waste Profile Form is determined.

Response

The Waste Stream Profile Forms will be transmitted once for each waste stream. For a waste stream that is generated after the Waste Stream Profile Form is submitted and approved, waste characterization activities will continue in order to verify that the waste stream is consistent with the initial characterization.

The number of waste containers deemed sufficient to fill out a Waste Stream Profile Form is based on the variability of the waste stream. This technique is addressed in Appendix C6.

A paragraph has been added to Section C-1b to read: "For waste streams that are continually generated, a Waste Stream Profile Form may be submitted once the waste stream has been characterized, per the QAPP, based on the variability of the waste stream (as shown in Appendix C6). Characterization activities will continue in order to verify the consistency with the initial characterization and the Waste Stream Profile Form. If there are discrepancies, the waste will be redefined to a separate waste stream and a new Waste Stream Profile Form will be submitted."

5. **Chapter C, C-1 Facility Description, Section C-1b, Identification Of TRU Mixed Waste Managed at the WIPP Facility, Page C-11, Lines 40-43, Page C-12 Lines 1-33.** The permit application includes brief summaries of the waste summary categories proposed for acceptance at WIPP. However, these discussions are too general and must include more detailed discussion of waste within these categories, including waste parameters, waste streams and anticipated hazardous waste, as well as examples of hazardous constituents. Specific attention must be paid to the hazardous waste potentially present within each Waste Summary Category. Revise the text of the permit application to include this information.

Response

Table C-2 includes a breakdown of the Waste Summary Category Groups into waste streams and the EPA hazardous waste codes associated with those waste streams. This information is extracted from the WIPP Transuranic Waste Baseline Inventory Report (Rev.1). The WTWBIR is a projected summary of the waste at the generator/storage sites, and all waste will be characterized to the requirements of the WAP before it is sent to the WIPP for disposal. At this time, the WTWBIR, and this Table C-2, are all of the information available linking Waste Summary Category Groups to EPA hazardous waste codes. A reference to Table C-2 has been added into the discussion on the Summary Category Groups. Also, a sentence has been added to the end of each Summary Category Group description to indicate whether toxic metals, spent solvents or both types of waste are expected to be present in the Summary Category Group.

6. **Chapter C, C-1 Facility Description, Section C-1b, Identification Of TRU Mixed Waste Managed at the WIPP Facility, Page C-12, Lines 35-43, Page C-13, Lines 1-2.** Radiography is incorrectly equated to visual examination, but the application elsewhere clearly delineates between the two activities. Both are forms of visual inspection, as referred to in the regulations. Revise this section of the application to use these terms in a precise manner, and include their definitions in the glossary.

Response

The waste is "examined" using radiography and visual examination. Waste containers are visually "inspected" for damage. The text has been revised to read: "...the DOE will use radiography as a form of nondestructive examination of the waste form in place of visual examination of the waste form." "Visual inspection" and "visual examination" have been added to the glossary.

7. **Chapter C, C-1 Facility Description, Section C-1b, Identification Of TRU Mixed Waste Managed at the WIPP Facility, Page C-15, Lines 6-7.** Free liquids are acceptable at WIPP in the form of residual liquids within containers. Revise this section to state that liquid waste is unacceptable for management at WIPP.

Response

Section C-1b has been revised to read: "•Liquid wastes (all waste must meet the WAC criteria regarding liquid content)."

8. **Chapter C, C-1 Facility Description, Section C-1b, Identification of TRU Mixed Waste Managed at the WIPP Facility, Page C-15, Lines 15-16.** The permit application states that "headspace-gas volatile organic compounds (VOC) concentrations resulting in emissions not protective of human health and the environment" will not be accepted. The permit application does not indicate, in this location, where these values are presented within the permit application. Table C-5 appears to present this information, but the table does not indicate where, within the permit application, the background calculations are included to derive the information presented in this table. Revise this section of the permit application to reference Table C-5, and include a reference in Table C-5 as to where supporting calculations are included. Also refer to comments on Table C-5 and Appendix D9.

Response

A footnote was added to Table C-5 to reference Appendix D9 for the calculations to support the values in the table. A reference to Table C-5 was added to the bullet for "headspace-gas volatile organic compounds (VOC) concentrations resulting in emissions not protective of human health and the environment."

**WIPP PART B PERMIT APPLICATION REVIEW
WASTE ANALYSIS PLAN**

APPENDIX C2

GENERAL COMMENTS

1. Revision 5.0 of the permit application included analyses for methane, ethane, propane, and hydrogen. While these are not hazardous constituents but are instead ignitable wastes prohibited by the WAC and this WAP, inclusion of them in headspace gas analyses is important because generation of said gases could occur in-situ due to biodegradation and corrosion; differentiation between original drum contents and gas generation following waste emplacement could be important. Revise the permit application to include these data.

Response

Continuous venting of waste containers is required to preclude the buildup of flammable gases due to gas generating mechanisms in the containers. Such venting has proven to be effective at generator sites for many years. Sampling containers once they are emplaced is not feasible. The application does address monitoring for flammable gas buildup in the underground (F-4g) and the accumulation of flammable gases behind panel closures (I-1e(1)). The inclusion of flammable gas analysis results is not relevant to this permit application.

2. The permit application does not include correlations of hazardous wastes versus waste matrix code groups. Although it is recognized that the specific list of waste within each group could be extensive (based upon information within Table C-2), it is important to include this information so that a comparison of headspace gas information with identified hazardous waste codes can be accomplished. Revise the permit application to include this information within Appendix C2.

Response

The headspace gas analysis results were not used to assign the hazardous waste codes for each waste stream listed in Table C-2. The information in Table C-2 was taken from the WTWBIR which was not based on waste characterization information. Waste characterization activities will be conducted independent of the information contained in the WTWBIR. When characterization of a waste stream is complete, the waste stream will be presented for approval to the WIPP on a Waste Stream Profile Form. At this time correlations between headspace gas analysis results and the assigned EPA hazardous waste codes will be made. Approval of a waste stream for disposal at the WIPP facility will be based solely on the information supplied on and with the Waste Stream Profile Form, not on the information contained in the WTWBIR. Also, all of the waste containers presented in Appendix C2 are not necessarily from certifiable waste streams. For these reasons, the information to correlate Appendix C2 to Table C-2 is not relevant to this application.

3. The permit application does not indicate how analytes with the "E" or "J" designator were handled if a dilution analyses were not available. Further, the permit application does not indicate why multiple analyses are available for some drums but not for others. Additionally, the permit application does not specifically state how the weighting factors for Waste Matrix Code Groups were derived. Revise the permit application in Appendix C2 to address these concerns.

Response

The data presented in Appendix C2 were compiled to calculate the weighted average concentrations

I N D E X

MARCH 19, 1999 - VOLUME XIV - (PAGES 2554 - 2751)

NMED WITNESSES:

STEVEN ORVIL ZAPPE

| | |
|---|------|
| CROSS-EXAMINATION (RESUMED) BY MR. FETTUS | 2562 |
| CROSS-EXAMINATION BY MR. HANCOCK | 2586 |
| CROSS-EXAMINATION BY MS. BONNEAU | 2651 |
| CROSS-EXAMINATION BY DR. PHILLIPS | 2665 |
| CROSS-EXAMINATION BY MS. READE | 2668 |
| CROSS-EXAMINATION BY MS. BAUMGARTEL | 2679 |
| CROSS-EXAMINATION BY MR. STEVENS | 2686 |
| CROSS-EXAMINATION BY MS. ZARAGOZA | 2689 |
| CROSS-EXAMINATION BY MS. MONTANO | 2692 |

CONSTANCE MARIE WALKER

| | |
|---------------------------------|------|
| DIRECT EXAMINATION BY MR. MCKAY | 2699 |
| CROSS-EXAMINATION BY MR. KRISTL | 2732 |
| CROSS-EXAMINATION BY MR. FETTUS | 2741 |

RECESSES 2603, 2642, 2676, 2698

REPORTER'S CERTIFICATE 2750

CORRECTION PAGE 2751

DOCUMENTS ADMITTED

CARD

| | |
|---|------|
| Letter, March 12, 1999, to Chris Wentz from Keith A. Klein | 2668 |
|---|------|

1 A. Uh-huh.

2 Q. If you could continue with your testimony.

3 A. 20 NMAC 4.1.900, incorporating 40 CFR 270.14(b)(2),
4 requires that a permit application for a hazardous waste
5 management facility such as WIPP contain, and this is a
6 quote which was just handed out:

7 "Chemical and physical analysis of
8 the hazardous waste and hazardous debris
9 to be handled at the facility. At a
10 minimum, these analyses shall contain
11 all the information which must be known
12 to treat, store or dispose of the wastes
13 properly in accordance with Part 264 of
14 this chapter."

15 This statement indicates that the chemical and
16 physical analysis of waste is to be included in the permit
17 application. Typically, land disposal facilities such as
18 WIPP include some detailed representative chemical and
19 physical analyses in the permit applications, and this may
20 be provided by the generator sites.

21 (Discussion off the record with reporter.)

22 In addition -- I must apologize. I tendency is
23 to read when I try to slow down, so I apologize for that.

24 In addition, 20 NMAC 4.1.900, incorporating
25 270.14(b)(3) requires that a permit application for a

1 hazardous facility such as WIPP contain a copy of the waste
2 analysis plan. At the waste disposal facilities such as
3 WIPP this plan usually includes, just in general terms,
4 enough activities to ensure that that waste is
5 characterized, and there are several components to that
6 waste analysis plan.

7 But additionally, as required in 264.13(a)(4),
8 pertinent to offsite disposal facilities, the permittees
9 must inspect and, as necessary, analyze each hazardous waste
10 movement received at the facility to determine whether that
11 waste matches what the generator sites have told them it is.
12 This type of analysis is called "confirmatory analysis" or
13 "fingerprint analysis," and the waste analysis plan should
14 include provisions for fingerprint analysis.

15 Q. Did the permit application for WIPP include this
16 information?

17 A. No, not directly. The permit application did not
18 include provision for WIPP site fingerprint analysis onsite
19 and included only Table C-2 and some discussion in the text
20 regarding the general waste information. However, the
21 permit application did include a detailed process by which
22 the required, detailed, representative chemical and physical
23 analysis would be attained, and this process, as described
24 in the waste analysis plan, also included activities to
25 check the waste once the initial waste characterization was

1 achieved, which is somewhat analogous to fingerprint
2 analysis -- or is analogous. Take away the word "somewhat."

3 Q. And how would the permittees acquire this
4 information?

5 A. The permittees require their generator storage
6 sites to acquire this information and to provide it to them
7 and require them to follow the processes specifically in the
8 waste analysis plan.

9 Q. And how did the permittees propose to ensure that
10 the process was appropriately implemented at generator
11 storage sites?

12 A. Well, the permittees proposed to audit the
13 generator storage sites to ensure that the sites are
14 characterizing the waste in accordance with the waste
15 analysis plan.

16 Q. Could you provide a description of the audit
17 program included in the permit application?

18 A. Yes. To help with this, we've prepared a little
19 handout that is -- we've got a flowchart. It's very, very,
20 simplistic, but it shows a few things. Again, this is a
21 very simplistic flowchart, and it's provided just as
22 information to help with the testimony I'm going to give.

23 It shows, basically, the general audit process
24 with elements that were included in the permit application
25 in regular type, and those imposed conditions by NMED -- and

Summary of May 15, 1998 Draft Permit Public Comments
and Responses to Comments by NMED
MODULE II.C

Commentor Key: B-Cartwright E-DOE/CAO F-Haney G-NFT/Castagneri H-EPA6/Neleigh I-Reade J-Overbay K-Tanner L-WITCO/Bernardi M-Moore
N-NMAG/Fettus O-INEEL Oversight/Trever P-INEEL CAB/Rice Q-Carlsbad DOD/Harrison R-Carlsbad City/Perkowski S-SRIC/Hancock T-Chavez
U-RFETS/LeGare W-INEEL/Fritz X-LANL/Hargis,LeBrun AA-EEG/Neill BB-CARD/Abraham.Greenwald CC-Hesch DD-CCNS/Carde,Arends

| Module No. | Condition No. | Attach. No. | Cmt. No. (pg & par) See commentor key above | Comment Subject | Summary of Comment | NMED Response | Include in Permit? y/n | | | Condition Analysis | Reviewer (initials) |
|------------|---------------|-------------|---|--|--|--|------------------------|--|--|--------------------|---------------------|
| II | C.1.g | 0 | N-46, (p. 7/ pp.3) | Permit modification to approve audit results | The permit should make clear that the approval of any site's audit results should be made by major modification of the permit, with full public participation. | The permit has been revised to remove the condition requiring permit modification for each generator/storage site because NMED has determined that the WAP process, conditioned upon approval of the audit requirement, is sufficient to meet the requirements of 20 NMAC 4.1.500 (incorporating 40 CFR §264.13). NMED shall make the audit report available to the public, and the public may provide written comments to NMED. | No | | | | CMW |

**STATE OF NEW MEXICO
BEFORE THE SECRETARY OF ENVIRONMENT**

**IN THE MATTER OF THE FINAL PERMIT
ISSUED TO THE UNITED STATES
DEPARTMENT OF ENERGY AND
WESTINGHOUSE ELECTRIC COMPANY
WASTE ISOLATION DIVISION FOR
A HAZARDOUS WASTE ACT PERMIT FOR
THE WASTE ISOLATION PILOT PLANT,
EPA No. NM4890139088**

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HRM 98-04(P)

**NEW MEXICO ENVIRONMENT DEPARTMENT'S
DIRECT TESTIMONY REGARDING REGULATORY
PROCESS AND IMPOSED CONDITIONS**

AUDIT REQUIREMENT

I. INTRODUCTION

In the revised draft permit, the New Mexico Environment Department (NMED) imposed a condition requiring the Applicants to audit generator/storage sites (Sites). The audits are required in order to demonstrate that the Sites have implemented and complied with the applicable portions of the Waste Analysis Plan (WAP) during waste characterization for waste destined for disposal at WIPP. NMED may observe the audits to ensure that the Applicants have properly implemented the WAP and audited compliance with the WAP at the Sites. Further, the Applicants must obtain NMED's approval of the final audit report for a Site before the Applicants can manage, store, or dispose of waste at WIPP from that Site.

Because the Applicants do not intend to conduct waste characterization at WIPP, NMED must implement an oversight process, such as audits, to ensure that the Permittees comply with the applicable portions of the WAP. The detailed audit-related permit conditions are necessary because the Applicants' proposed audit program, while recognizing the need for Site audits, was technically inadequate, and did not provide for NMED participation, review, and approval. For instance, the Applicants proposed to share information with NMED, but did not allow NMED to observe the audits. Critically, the Applicants did not propose for NMED to approve the audit, even though the Applicants relied on the audit process to provide information which should have been contained in the Application.

II. REGULATORY ANALYSIS

NMED regulations at 20 NMAC 4.1.900 (incorporating 40 CFR §270.14(b)(2)) requires a permit application to contain:

Chemical and physical analyses of the hazardous waste and hazardous debris to be handled at the facility. At a minimum, these analyses shall contain all the information which must be known to treat, store, or dispose of the wastes properly in accordance with Part 264 of this chapter.

In addition, 20 NMAC 4.1.900 (incorporating 40 CFR §270.14(b)(3)) requires a permit application to contain "[a] copy of the waste analysis plan required by §264.13(b) and, if applicable §264.13(c)."

Revision 6.4 of the Application did not contain a detailed and representative chemical and physical analysis of waste streams to be disposed at WIPP. Typically, proposed Subpart X facilities, such as WIPP, submit applications containing detailed chemical and physical analyses provided by generator sites, as well as detailed waste analysis plans for implementation by the facilities to ensure that the

generator sites properly characterized the wastes. In addition, the permit applications typically contain provisions for periodic waste analyses by the facilities to confirm the waste characterization by generator sites. These analyses, called on-site confirmatory or fingerprint analyses, are required to determine the accuracy of hazardous waste manifests. See 40 CFR 264.13(a)(4). However, the Applicants proposed no such analyses, arguing that multiple sampling of waste containers raised radiological health concerns. In the place of fingerprint analyses, the Applicants proposed to “review” waste characterization information prepared by the generator sites.

While the regulations indicate that permit applications must include chemical and physical analyses, they also state that the disposal facility must obtain these analyses prior to waste disposal. See 40 CFR 264.13(a). In recognition of the unique features of WIPP and the inclusion of general waste information in the permit application (Table C-2, Revision 6.0 of the permit application), NMED concluded that the provision of detailed and representative chemical and physical analyses could be obtained through implementation of the WAP at generator Sites, as confirmed by audits conducted by the Applicants with NMED oversight. As a result, the only method to ensure compliance with the WAP is to audit the generator Sites. Similarly, NMED must be able to approve the audits, because such approval is the only way for NMED to ensure that WIPP is enforcing the WAP at the generator Sites.

Disposal facilities are required to obtain all waste characterization information which must be known to treat, store or dispose hazardous waste. See 40 CFR 264.13. According to EPA guidance, this requirement includes verification of the integrity of the waste characterization information provided by generator Sites through Site visits and/or confirmatory analysis of split samples. Because the Applicants do not intend to analyze split samples, the only way for WIPP to verify the integrity of waste characterization information (e.g., acceptable knowledge) is through Site audits. EPA guidance also states that disposal facilities which rely on acceptable knowledge must become “thoroughly familiar with the generator’s processes to ensure integrity of the acceptable knowledge data”. By requiring acceptable knowledge audits in the context of the overall audit program, NMED ensures that the Applicants examine Site procedures for acquiring acceptable knowledge information and determine that the Sites have correctly used acceptable knowledge to characterize waste.

The EPA intended the WAP to include requirements specifying “the level of analysis to be performed on the waste managed at facilities, the minimum frequency with which these analyses were to be repeated, and the properties of the waste which were to be determined to verify the identity of each truckload, shipment, or batch of hazardous waste managed at facilities”. 45 FR 33179. For off-site facilities, the WAP also was intended to present “procedures used to determine the identity of incoming waste,” including sampling methodologies, test methods, and analysis parameters. Id. at 33180.

NMED reviewed the Applicants’ proposed WAP in light of the EPA requirements, as well as the unique, site-specific factors relating to the management of mixed waste, which contains radioactive material imposing special health concerns at WIPP. Although the Applicants did not submit a detailed, representative waste analysis or propose on-site verification of waste analysis, they did submit a



THE GREEN GAZETTE

THE NEW MEXICO ENVIRONMENT DEPARTMENT NEWSLETTER
VOLUME 1, ISSUE 1
WINTER 2004

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| POLLUTION PREVENTION | 6 |

MISSION STATEMENT: TO PROMOTE THE HIGHEST QUALITY OF LIFE THROUGHOUT THE STATE BY PROVIDING A SAFE, CLEAN, AND PROTECTIVE ENVIRONMENT.

Ground Water Quality Bureau

UPDATED WASTEWATER REUSE POLICY PROTECTS RESOURCES

Already in use at golf courses and other sites around the state, irrigation with treated wastewater helps preserve New Mexico's potable water resources. A policy recently updated by NMED's Ground Water Quality Bureau will better promote this use while protecting human health.

The policy establishes strong health requirements including limits on ponding and spraying as well as mandatory posting of bilingual notices identifying application areas.

Under the new policy reclaimed wastewater, which is treated and disinfected, has uses including dust suppression at construction sites, snow-making,



RIO CHAMA

and irrigation. These uses lessen demands on our limited freshwater resources.

This policy is the product of an NMED organized group that included representatives of the Department of Health, Municipal League and industry.

2003 EMPLOYEES OF THE YEAR

In honor of their exemplary service and record of high performance, the following NMED employees are the Department's Employees of the Year for 2003. To carry this new tradition forward, a new Employee Recognition Committee is being formed to select employees of the quarter and year in the future as well as to coordinate Department-wide events and celebrations. Each Division will have a representative on the Employee Recognition Committee. Administrative leave will be granted along with each award and for participating on the committee. Employees of the year get three days off, quarterly award winners get two days off and committee members get one day off.

NMED's 2003 Employees of the Year are:

Lucy Dunn, Field Operations Division. From her office in Las Cruces Lucy developed the Access budgeting system used by many bureaus and has been responsible for the acquisition and disbursement of computer software. She prepared the Field Operations Division Newsletter and has effectively coordinated and improved information Technology services in the field offices.

Kevin Koch, Environmental Protection Division. Kevin was called to military duty for several months last year, leaving behind a two-month-old son and four-year-old daughter. When he returned to his job at OHSB, he quickly realized we were behind in meeting our goals for Consultation. Kevin jumped in with both feet and brought the Consultation Section up to speed. Kevin has worked hard to expand the Partnership Agreements and Voluntary Protection Programs we have between industries in New Mexico and the Department. Kevin has also worked hard on putting forth the Hispanic Initiative for the OHSB.

Connie Marquez, Administrative Services Division. Connie is always willing to assist bureaus and go the extra mile to ensure effective human resource management. She managed the Personnel Services Bureau smoothly during the transition from Cliff Hawley to Judy Bentley. She is always competent and friendly.

CONTINUED ON PAGE 6

MESSAGE FROM THE SECRETARY

Welcome to the "new" NMED.

For the last few months, myself, Deputy Secretary Derrith Watchman-Moore and the senior staff team as well as the bureau chiefs and district managers have met several times to discuss the future direction of this agency. We have talked a lot about the Department's three guiding principles of **environmental holism, diversity and a high performance workforce**, as well as uncovering tangible accomplishments that can help get us closer to these goals.



I'm happy to say that the newsletter you are holding in your hand or eyeballing on your screen realizes one of these accomplishments. There are more to come including a revamped employee recognition program and an orientation for all Department employees, old and new, about NMED's mission, goals and procedures. I hope that these efforts will help us work together to achieve our common goals.

NMED is the most diverse agency in state government with responsibility for everything from a Portales Dairy Queen to Los Alamos National Laboratory. This breadth and the quality of our work in all these areas are reflected in the Department's accomplishments for 2003 included in this issue.

Taken singularly, each one of these accomplishments is very impressive. Taken as a whole, these accomplishments lay a great foundation for the future. Let's build on that foundation this year and show New Mexico that they ain't seen nothing yet!

Sincerely,

Ron Curry
CABINET SECRETARY

Thank you to the following contributing writers for their submittals:

Ruth Ann Greuling— Solid Waste Bureau
Eria Murphy— Ground Water Quality
Julie Arvidson— Surface Water Quality
Andy Berger— Air Quality Bureau
Mike Taylor— Radiation Protection Bureau
Michelle Vattano— Pollution Prevention

On average,
Americans
throw away
20,000 televi-
sions, 150,000
tons of packag-
ing materials,
and 43,000 tons
of food per
day.

NMED Accomplishments

NMED has enjoyed many successes in the past year. These include:

WIPP High Level Waste: Following the Governor's October 28, 2003 directive to prohibit reclassified high-level waste at WIPP, NMED issued an agency-initiated permit modification. This modification looks to prevent any reclassified high-level waste from being sent to WIPP. This move came after attempts by DOE to reclassify radioactive sludge currently stored at Hanford. NMED's modification prevents reclassified high-level waste from being sent to WIPP without asserting authority over the radioactive nature of the waste, reducing the likelihood that DOE will be able to mount a successful legal challenge to the permit modification.

Regional Haze: The Environmental Improvement Board (EIB) approved the Department's proposed Regional Haze State Implementation Plan and all associated regulations including a new Smoke Management Plan for the state. By doing this we became only the second state in the country to take meaningful steps to combat regional haze. The plan complies with section 309 of the Federal Regional Haze Rule and has been determined by EPA to demonstrate reasonable progress towards returning visibility in New Mexico's national parks and wilderness areas to natural background conditions by 2064. In conjunction with this, the board approved the Department's proposal for a new Open Burning regulation that will ban the burning of dioxin emitting household refuse beginning in June of next year.

Continued on page 4

SOLID WASTE BUREAU

Interested in Waste Reduction?

Let's Get STARTed

NMED with assistance from General Services Department is helping state government recommit to recycling and waste reduction. This initiative is over the State Agency Recycling Team (START). START is comprised of coordinators from each state agency and is administered by the Solid Waste Bureau. Cindy Pash, Bureau Chief, notes there is particular focus on waste reduction. "The Runnels building has an office paper recycling program, yet each employee still generates a ton each year of trash that is not recycled. Simple things we can do such as double-sided copying and using scrap paper for draft documents add up to big results."

To make it easy for people to participate, a waste reduction checklist is on the back of employee calendars. START's goal is to incorporate waste reduction and recycling into the culture of state government. "We want this program to blend with the way we work—to become second nature, a state of mind," she adds.

START has been meeting to develop individual agency plans. "I am pleased with the results so far," says E. Gifford Stack, manager of outreach for the Solid Waste Bureau. "State government is the largest waste generator, a major consumer, and a prodigious generator. We can set an example for our state. The ideas, tools, and techniques to make a difference for New Mexico."

For information on START, contact Ruth Ann Gifford, Solid Waste Bureau, 827-0129



IT'S A STATE OF MIND

State Agency Recycling Team

Reduce with STARTs

Reuse STARTs with You

Recycling STARTs with You

Questions about your recycling program? Call (505) 827-0129

In the end, our society will be defined not only by what we create, but by what we refuse to destroy

-Nature Conservancy's John Sawhill

Radiation Protection Bureau

January is Radon Awareness Month

The U.S. Environmental Protection Agency's has designated January as Radon Awareness Month. Radon is believed to be the second leading cause of lung cancer in the country and the leading cause among nonsmokers. The National Academy of Sciences estimates that 15,000 Americans die annually from radon-related lung cancer. The New Mexico Environment Department will be conducting special activities this January in recognition of Radon Awareness Month. This includes distribution of **FREE** radon test kits.

Radon is a naturally occurring radioactive gas that is tasteless, odorless and colorless. It is found in virtually every type of soil or rock. The gas travels through the ground and is quickly diluted when released into the atmosphere. If it enters a building through openings in the foundation floor or walls, however, it decays into Radon "daughters", which can be inhaled. Poor ventilation and smoke from cigarettes or wood fires are known to contribute to the problem. Prolonged exposure increases a person's risk of contracting lung cancer.

There is no way to predict whether homes have elevated radon levels. Testing is the only way to find out. The NMED Radiation Control Bureau is working with organizations to ensure that technical assistance and informational materials are accessible statewide.

Kits can be obtained by contacting the Indoor Radon Outreach Program Coordinator, **Michael Taylor** at (505) 827-1093, or via e-mail at michael_taylor@nmed.state.nm.us. Kits include free postage to mail the device to an out-of-state lab and prepaid fee for having it analyzed. Following the directions in each kit, the results of the test analysis are returned directly to the homeowner's address.

What is a watershed?

- * Watersheds are natural boundaries. They are the areas that drain to water bodies, including lakes, rivers, wetlands, streams, and the surrounding landscape. Ground water recharge areas are also considered.

Continued from page 2

Late Night Retail Study: The OSHA Bureau completed the first ever study of violence in late night retail stores in New Mexico. The study showed that in the metro areas analyzed there were 16 murders and 27 kidnappings over the last five years. Following the study, the bureau held town hall meetings around the state and drafted regulations to protect convenience store workers from this violence. These regulations will fight crime and lead better protection for store workers and customers at night.

Water Infrastructure Loans and Grants: Through our Construction Programs Bureau, NMED helped fund and administer 333 water infrastructure projects in 2003, 144 of these were new projects added in the last year. With state aid, these projects received \$16.5 million in 2003. These dollars have a huge impact on the state's rural and economically disadvantaged areas. For example, because of these grants and low interest loans residents of southern colonias, Albuquerque's South Valley and the Village of Jemez Springs are on their way to having safer drinking water and waste water treatment plants that do not pollute our rivers.

LANL Impaired Waters: Despite opposition from Los Alamos National Laboratory, we were able to include seven polluted waterways that emanate from lab property on our "impaired waters" list. This will allow us to begin the process of setting pollution limits and cleaning up these tributaries of the Rio Grande. It marks the first time anywhere in the country that a DOE facility's waters have been listed. This sets an important precedent for the state's power to demand the clean up of other polluted areas controlled by the DOE; areas whose protection is vital to the health of our state's environment and citizens. The state's impaired waters list includes nearly 200 streams and rivers around the state in need of environmental protection. By attempting to stop NMED over their seven, LANL had prevented work from getting started on any of them.

Rio Puerco Restoration: During 2003 staff and financial resources were focused on watershed restoration efforts in the heavily impacted Rio Puerco Watershed, the largest tributary to the Rio Grande in New Mexico. NMED's SWQB funded several Clean Water Act Section 319 projects resulting in technical assessment and design of

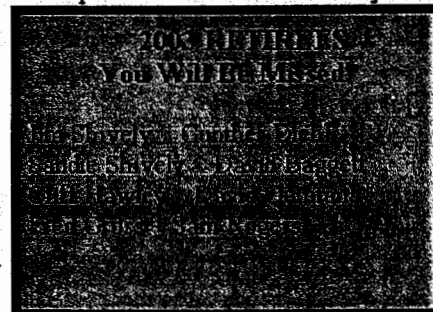
restoration strategies, and a \$500,000 Joint Powers Agreement to address stream restoration, erosion control and public safety issues on Bureau of Land Management property in Sandoval County, near Cuba. The project leverages over \$3.5 million in state and federal highway and bridge construction that contributes directly to the restoration effort. Additional NMDOT and Sandoval County contributions provide the needed matching funds component for the federal grant. This project is an excellent example of a collaborative effort between Tribal interests, local stakeholders, the SWQB and the Rio Puerco Management Committee. These efforts will not only improve the environment along the river but also make sure water supplies from Elephant Butte remain protected.

Source Water Assessment and Drinking Water Protection: NMED Drinking Water Bureau provided a full accounting to EPA for the failure of the last administration to complete the necessary Source Water Assessments with a 1.3 million dollar grant in 2001. There were less than 30 source water assessments completed at the end of calendar year 2002. There are now over 700 source water assessment reports that have been completed. DWB also established an Enforcement Program for the first time and issued close to 40 enforcement actions that will help protect users of the state's 1,400 public drinking water systems.

Liquid Waste Regulation: The Department is in the process of tackling the number one polluter of New Mexico's groundwater, improperly functioning septic tanks. A diverse committee was appointed by Secretary Curry to completely re-write the liquid waste regulations. Committee members include NMED staff, industry representatives, and university professors. After several months of meetings, the re-write process is almost finished. The new draft regulations are being presented for legal review, records review and will be made available to the public for comment early in 2004. A policy to address the proliferation of conventional septic tanks being installed on lots smaller than the ¾ acre minimum, as currently allowed by "Grandfather" provisions in the regulations, was issued. The policy, authorized by Liquid Waste Regulation 20.7.3.200.A.6 NMAC, requires additional scrutiny of permit applications for small lots and may require that an advanced system be installed to protect vulnerable bodies of water. This issue is especially important in rural New Mexico where most of the state's 200,000 septic tanks are located.

Radiation Detection at Ports-of-Entry: NMED negotiated a grant commitment from the U.S. Department of Homeland Security in the amount of \$200K, for installation of radiation detection portal monitors at the Gallup and Anthony Ports-of-Entry. These two detection systems will have the capability to monitor for gamma and special nuclear material shipments. The two systems will provide a security infrastructure to guard against illicit trafficking of nuclear materials into the State.

Acute Disease Response: An Acute Disease Response Team (ADRT) was successfully implemented in District 3, Las Cruces and is now planned for development in the remaining Districts. ADRT is made up of key staff from District Field Office and Department of Health staff in coordination with the Food Program staff and DOH office of Epidemiology. The basic premise is that rapid, coordinated investigative response to food borne illness outbreaks can help limit the number of people getting ill while providing valuable lessons on how to prevent recurrences.



AIR QUALITY BUREAU

New Plan Will Improve Visibility in New Mexico's National Park and Wilderness Areas

NMED's Air Quality Bureau is now moving forward with implementation of a recently approved plan to improve visibility in New Mexico's National Parks and Wilderness Areas. The multifaceted plan, adopted by the Environmental Improvement Board at its November 2003 meeting, addresses visibility impairment by instituting measures to lower emissions of pollutants that contribute to the formation of "regional haze." Implementation of the plan initiates a regional program to restore visibility in national parks and wilderness areas to "natural" conditions by the year 2064. The plan includes requirements for sources of sulfur dioxide (such as coal-fired power plants, refineries, natural gas plants, and copper smelters) and smoke management.

Visibility impairment in the form of regional haze is created when light is absorbed or scattered by air pollution – gases and particles in the atmosphere.

Haze is considered regional because pollutants from a wide variety of sources create it across large geographic areas. Sources such as vehicles, forest fires, and industrial sources emit haze-forming pollutants including sulfates, nitrates, and particulate matter.

The regional haze plan is New Mexico's answer to the federal Regional Haze Rule, a major effort announced in 1999 by the U.S. Environmental Protection Agency (EPA) for improvement of visibility in 156 national parks and wilderness areas known as Class I areas. The 9 Class I areas in New Mexico are Bandelier National Monument, Bosque del Apache National Wildlife Refuge, Carlsbad Caverns National Park, and the Gila, Pecos, Salt Creek, San Pedro Parks, Wheeler Peak, and White Mountain Wilderness Areas. The ultimate goal of the EPA's visibility protection regulations is a return to natural visibility conditions in Class I areas by 2064. Depending on circumstances, natural conditions can mean visibility ranging up to a few hundred miles. The Regional Haze Rule requires states, in coordination with federal agencies and other stakeholders, to develop and implement air quality protection plans to reduce the pollution that causes visibility impairment.

For more information about the regional haze plan, go to the Air Quality Bureau's Regional Haze Web page at: <http://www.nmenv.state.nm.us/aqb/Regional-Haze.html>

Surface Water Quality Bureau

New Program and Project Will Help Protect Wetlands

The Surface Water Quality Bureau (SWQB) is implementing a new wetlands program and partnering with the Carson National Forest on a wetland project. Two assistance grants from the Environmental Protection Agency are funding the program and the project.

Wetlands are areas where water covers the soil year round or at differing times during the growing season of the year. They hold diverse species of water-loving plants, bugs and fish and also support terrestrial species. Streamside or floodplain situated wetlands act as a natural sponge slowing the velocity of water to decrease erosion and reduce flood damage. They also act as a natural filtration system against nutrients and other pollutants.

The goals of the SWQB wetlands program are to protect and enhance New Mexico's remaining wetlands and riparian areas by increasing self-sustaining and naturally functioning wetlands.

The SWQB is also involved in the Stewart Meadows Wetland Waterfowl Habitat Partnership Project. The objective of this project is to create and improve 25-50 acres of wetland habitat for migratory waterfowl in north central New Mexico.

The SWQB wetlands program and the Stewart Meadows project facilitate the reduction of nonpoint source pollution in watersheds in New Mexico.

Brain Teaser:

GIVE ME FOOD AND I WILL LIVE;
GIVE ME WATER AND I WILL DIE.
WHAT AM I ?

Fire

POLLUTION PREVENTION

HAPPY NEW YEAR FROM POLLUTION PREVENTION (P2)

Another year has begun and some of us are taking on New Year's resolutions for 2004. Your resolution might be to exercise more, work harder, or maybe just to get along better with others. But why not do something different in 2004, something that will benefit you and your family, saving you money and helping protect the environment at the same time? Let's resolve to waste less and conserve more. During the winter months we spend more time inside our homes – reading, eating, watching television or accomplishing indoor projects. With more time inside and the cold winds blowing, we tend to use more energy. Here are some ideas for the winter months to help you cut costs and reduce energy.

- Turn lights off when a room is not being used or trade your current bulbs for energy saving light bulbs – they last 12 times longer than a standard bulb and will help decrease your electric bill.
- Reduce your junk mail intake (see New Mexico Recycling Coalition NMRC www.nmrecycle.org website for instructions)
- Evaluate your transportation usage – carpool to work or take care of all your errands in one trip, if possible.
- Check with PNM www.pnm.com for instructions on how to cut your heating expenses.
- Examine the windows and doors in your home to make sure they are airtight.
- Turn off your computer and lights in your office when you leave work
- Dispose of Anti-Freeze Properly (it is dangerous 100% of the time to animals and children)
- Draw at dusk... close your curtains as the days get chillier. Closing your curtains at dusk will stop heat escaping through windows.

The following is a list of trainings you can look forward to from the Pollution Prevention Program in the coming months. Contact Michelle Vatanno at 827-0677 for more information.

January

Pollution Prevention workshop (Santa Fe)

February

Regulatory Integration workshop (Albuquerque)

Green Zia Application Writing workshop

Green Zia Criteria workshop

April

Green Zia Examiner training

CONTINUED FROM PAGE 1

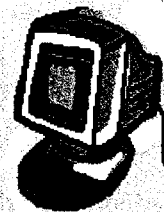
John Montgomery, Water and Waste Management Division.

John is recognized for his exemplary effort this past year in preparing the department for the upcoming triennial review of surface water quality standards. His efforts at working with stakeholders have resulted in a significant narrowing of hearing issues, which has reduced the department and commission's time spent in hearing and associated hearing costs. John has also established excellent professional and productive working relationships with outside parties in an attempt to fully understand various stakeholder's views and is highly respected as a source of information on water quality standards. John's thorough understanding of the issues has also led to innovative solutions to long-lingering problems.

For publication information, contact:
Darla Allen 827-2331
 Email: darla.allen@nmenv.state.nm.us

WHATS NEW IN IT

The NMED theme teams recommended the NMED Intranet (some of you may know this as DWS) be updated and made more useful. As a result of the theme team recommendation, an ad hoc advisory team consisting of representatives from personnel, administrative services, IT staff and bureaus is being convened to identify specific improvements. Their vision for a new and improved Intranet will be implemented by the NMED webmaster. Please send ideas for improvement to: lynn_harris@state.nm.us.



TRAINING AND DEVELOPMENT

Sign up before we fill up! For more information contact Linda Sosa @ linda_sosa@nmenv.state.nm.us or visit <http://dws> for seminar information.

January 15 New Employee Orientation, Runnels Auditorium, 1190 St. Francis Dr., Santa Fe.

January 23 Defensive Driving, Conference Room, 2052 Galisteo Road, Santa Fe, 8:00 to 4:30 pm.

February 12 Dealing With Difficult People, and Managing Stress At Work, Runnels Auditorium- 1190 St. Francis Dr., Santa Fe. Session One: 10:00 am Session Two: 2:00

Training Dates for District III (Las Cruces)–To Be Announced

February 26 Customer Service and Managing Stress At Work, 1190 Runnels Auditorium 1190 St. Francis Dr., Santa Fe, Session One: 10:00 am Session Two: 2:00 pm

Training Dates for District III (Las Cruces)–To Be Announced

March 15 New Employee Orientation, 1190 St. Francis Dr., Santa Fe, Runnels Auditorium, 8:00 to 5:00 pm.

WWW.NMENV.STATE.NM.US



Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221
January 9, 2004

Mr. Steve Zappe, WIPP Project Leader
Hazardous Waste Permits Program
Hazardous Waste Bureau
New Mexico Environment Department
2905 E. Rodeo Park Dr. Bldg. 1
Santa Fe, New Mexico 87505-6303

**Subject: REQUEST FOR CLASS 3 PERMIT MODIFICATION TO THE HAZARDOUS
WASTE FACILITY PERMIT, PERMIT NUMBER NM4890139088—TSDF,
IMPLEMENTING SECTION 311 OF PUBLIC LAW 108-137**

Dear Mr. Zappe:

The purpose of this letter is to submit a request for a Class 3 permit modification to the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP), Number: NM4890139088—TSDF. The U.S. Department of Energy, Carlsbad, Field Office (CBFO) and Washington TRU Solutions LLC are submitting this request. The proposed changes in the Permit Modification Request (PMR) do not compromise worker safety, human health, or the environment.

The Permittees are submitting this PMR in accordance with 20.41.900 New Mexico Administrative Code (NMAC) incorporating Title 40 Code of Federal Regulations (40 CFR) § 270.42(d) and are requesting this modification be processed as a Class 3 Permit Modification in accordance with 20.4.1.900 NMAC incorporating 40 CFR § 270.42(c).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

To facilitate your review, the Permittees are also including revised versions of four technical papers that had been provided to the National Academy of Sciences and reviewed by the New Mexico Environment Department.

If you have any questions regarding this transmittal, please contact Mr. Kerry Watson at (505) 234-7357 or Mr. Jody Plum at (505) 234-7462.

Sincerely,



Dr. Inés Triay, Manager
Carlsbad Field Office



S. D. Warren, General Manager
Washington TRU Solutions LLC

Attachment

cc: With attachment
C. Walker, Trinity Engineering

cc: Without attachment
J. Kieling, NMED
S. Martin, NMED

bcc: Without attachment:

H. L. Plum, CBFO

K. W. Watson, CBFO

D. T. Bignell, WRES

R. Chavez, WRES

R. F. Kehrman, WRES

W. A. Most, WRES

L. N. Steven, WTS

D. R. Streng, WRES

S. D. Warren, WTS

RCRA Chronology, WRES (L. Pastorello)



Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221

JUN 27 2002

Mr. Steve Zappe, Project Leader (WIPP)
Hazardous Waste Permits Program
Hazardous Waste Bureau
New Mexico Environmental Department
2905 E. Rodeo Park Dr., Bldg. 1
Santa Fe, New Mexico 87505-6303

RE: Request for Permit Modification to the Hazardous Waste Facility Permit, Permit Number NM4890139088-TSDF, Waste Characterization Updates and other Process Improvements

Dear Mr. Zappe:

The purpose of this letter is to submit a request for a Class 2 permit modification to the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP), Number: NM4890139088-TSDF. This request is being submitted by the U.S. Department of Energy, Carlsbad Field Office (CBFO) and Westinghouse TRU Solutions LLC. The proposed changes in this Permit Modification Request (PMR) do not compromise worker safety, human health, or the environment. The modification includes the following items:

- Item 1: Add U134 as a New Hazardous Waste Number;
- Item 2: Characterizing Repackaged Homogeneous Solids as Retrievably Stored Waste with Regard to Solids Sampling (Control Charting);
- Item 3: Classified Information Recordkeeping and Audit Requirements; and
- Item 4: Addition of HalfPACTs; and
- Item 5: Use of Radiography for Newly Generated Waste (Visual Verification).

The permittees are submitting this PMR in accordance with 20.4.1.900 NMAC incorporating 40 CFR 270.42(b) for Class 2 permit modifications.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Sincerely,


Dr. Inés Triay, CBFO Manager
U.S. Department of Energy


J. L. Lee, General Manager
Westinghouse TRU Solutions, LLC

Enclosure

Mr. Steve Zappe

-2-

cc: w/enclosure
C. Walker, Techlaw

cc: w/o enclosure
J. Bearzi, NMED
J. Kieling, NMED

Class 2 Permit Modification Request

Waste Characterization Updates and Other Process Improvements

Add U134 as a New Hazardous Waste Number

**Characterizing Repackaged homogenous Solids as Retrievably Stored Waste with Regard to
Solids Sampling**

Classified Information Recordkeeping and Audit Requirements

Addition of HalfPACTs

Use of Radiography for newly Generated Waste

**Waste Isolation Pilot Plant
Carlsbad, New Mexico**

WIPP HWFP #NM4890139088-TSDF

Transmittal Letter

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Table 1. Class 2 Hazardous Waste Facility Permit Modification

| No. | Affected Permit Section | Item | Category | Attachment 1 Page # |
|-----|---|--|----------|---------------------|
| 1 | a.1. Module II b.1. Attach. B3 c.1. Attach. O, Part A Application | Addition of New Hazardous Waste Number | F.3.b | A-12 |
| 2 | a.1. Module II b.1. Attach. B c.1. Attach. B1 d.1. Attach. B2 e.1. Attach. B6 | Characterizing Repackaged Homogenous Solids as Retrievably Stored Waste with Regard to Solids Sampling | B.1.d | A-29 |
| 3 | a.1. Module II b.1. Attach. B c.1. Attach. B3 d.1. Attach. B6 | Incorporate recordkeeping and audit requirements for classified information. | B.2.b | A-48 |
| 4 | a.1. Module I b.1. Module III c.1. Attach. A d.1. Attach. B e.1. Attach. C f.1. Attach. D g.1. Attach. E h.1. Attach. F i.1. Attach. G j.1. Attach. I k.1. Attach. J1 l.1. Attach. M1 m.1. Attach. M2 n.1. Attach. O | Addition of HalfPACT | F.2.a | A-62 |
| 5 | a.1. Attach. B b.1. Attach. B4 c.1. Attach. B6 | Use of Radiography for Newly Generated Waste | B.1.d | A-102 |

Item 1

Addition of New Mexico Hazardous Waste Number

Acronyms and Abbreviations

| | |
|--------|---|
| AK | Acceptable Knowledge |
| CBFO | Carlsbad Field Office |
| CFR | Code of Federal Regulations |
| DOE | Department of Energy |
| DQO | Data Quality Objective |
| EPA | United States Environmental Protection Agency |
| HF | Hydrofluoric Acid |
| HWDU | Hazardous Waste Disposal Unit |
| HWFP | Hazardous Waste Facility Permit |
| INEEL | Idaho National Engineering and Environmental Laboratory |
| INTEC | Idaho Nuclear Technology and Engineering Center |
| NMAC | New Mexico Administrative Code |
| NMED | New Mexico Environment Department |
| PMR | Permit Modification Request |
| PPE | Personal Protective Equipment |
| RCRA | Resource Conservation and Recovery Act |
| SAE | Society of Automotive Engineers |
| TIC | Tentatively Identified Compound |
| TRU | Transuranic |
| TRUCON | Transuranic Content |
| TSDF | Treatment, Storage and Disposal Facility |
| TWBIR | TRU Waste Baseline Inventory Report |
| UCL90 | Upper 90 Percent Confidence Level |
| WAC | Waste Acceptance Criteria |
| WIPP | Waste Isolation Pilot Plant |
| WTS | Westinghouse TRU Solutions LLC |

Overview of the Permit Modification Request

This PMR is being submitted by the U.S. Department of Energy (DOE), Carlsbad Field Office (CBFO) and Westinghouse TRU Solutions LLC (WTS), collectively referred to as the Permittees, in accordance with the WIPP HWFP, Condition I.B.1 (20.4.1.900 New Mexico Administrative Code (NMAC) incorporating 40 Code of Federal Regulations (CFR) §270.42(b)). This PMR is necessary to allow generator/storage sites the ability to ship non-corrosive waste which carries the U134 hazardous waste number to WIPP for disposal. This change does not reduce the ability of the Permittees to provide continued protection to human health or the environment.

The requested modification to the WIPP HWFP and related supporting documents are provided in this PMR. The proposed modification to the text of the WIPP HWFP has been identified using a double underline and a revision bar in the right hand margin for added information, and a ~~strikeout~~ font for deleted information. All direct quotations are indicated by italicized text. The following information specifically addresses how compliance has been achieved with the WIPP HWFP requirement, Permit Condition I.B.1 for submission of this Class 2 PMR.

1. **20.4.1.900 NMAC (incorporating 40 CFR §270.42(b)(1)(i)), requires the applicant to describe the exact change to be made to the permit conditions and supporting documents referenced by the permit.**

This modification contains a single proposed change that will allow the addition of the hazardous waste number U134. The exact, proposed text changes are found in Attachment A of this PMR, while changes to the Part A application are found in Attachment B.

2. **20.4.1.900 NMAC (incorporating 40 CFR §270.42(b)(1)(ii)), requires the applicant to identify that the modification is a Class 2 modification.**

The proposed modification is classified as a Class 2 permit modification.

3. **20.4.1.900 NMAC (incorporating 40 CFR §270.42(b)(1)(iii)), requires the applicant to explain why the modification is needed.**

The Idaho National Engineering and Environmental Laboratory (INEEL) has requested the addition of a hazardous waste number to the existing WIPP HWFP. This new number is required to allow disposal of transuranic (TRU) mixed waste with the hazardous waste number U134 at WIPP.

4. **20.4.1.900 NMAC (Incorporating 40 CFR §270.42 (b)(1)(iv)), requires the applicant to provide the applicable information required by 40 CFR §§270.13 through 270.21, 270.62 and 270.63.**

The regulatory crosswalk describes those portions of the WIPP HWFP that are affected by this PMR. Where applicable, regulatory citations in this modification reference Title 20, Chapter 4, Part 1, NMAC, revised June 14, 2000, incorporating the CFR, Title 40 (40 CFR Parts 264 and 270). 40 CFR §§270.16 through 270.22, 270.62, 270.63 and 270.66 are not applicable at WIPP. Consequently, they are not listed in the regulatory crosswalk table. 40 CFR §270.23 is applicable to the WIPP Hazardous Waste Disposal Units (HWDUs). This modification does not impact the conditions associated with the HWDUs.

5. **20.4.1.900 NMAC (Incorporating 40 CFR §270.11(d)(1) and 40 CFR §270.30(k)), requires any person signing under paragraph a and b must certify the document in accordance with 20.4.1.900 NMAC.**

The transmittal letter for this PMR contains the signed certification statement in accordance with Module I.F of the WIPP HWFP.

Regulatory Crosswalk

| Regulatory Citation(s) 20.4.1.900 NMAC (Incorporating 40 CFR Part 270) | Regulatory Citation(s) 20.4.1.500 NMAC (Incorporating 40 CFR Part 264) | Description of Requirement | Added or Clarified Information | | |
|--|--|--|---|-----|----|
| | | | Section of the HWFP or Permit Application | Yes | No |
| §270.13 | | Contents of Part A permit application | Attachment O, Part A | ✓ | |
| §270.14(b)(1) | | General facility description | Attachment A | | ✓ |
| §270.14(b)(2) | §264.13(a) | Chemical and physical analyses | Attachment B | ✓ | |
| §270.14(b)(3) | §264.13(b) | Development and implementation of waste analysis plan | Attachment B | ✓ | |
| | §264.13(c) | Off-site waste analysis requirements | Attachment B | ✓ | |
| §270.14(b)(4) | §264.14(a-c) | Security procedures and equipment | Attachment C | | ✓ |
| §270.14(b)(5) | §264.15(a-d) | General inspection requirements | Attachment D | | ✓ |
| | §264.174 | Container inspections | Attachment D | | ✓ |
| §270.23(a)(2) | §264.602 | Miscellaneous units inspections | Attachment D | | ✓ |
| §270.14(b)(6) | | Request for waiver from preparedness and prevention requirements of Part 264 Subpart C | NA | | |
| §270.14(b)(7) | 264 Subpart D | Contingency plan requirements | Attachment F | | ✓ |
| | §264.51 | Contingency plan design and implementation | Attachment F | | ✓ |
| | §264.52 (a) & (c-f) | Contingency plan content | Attachment F | | ✓ |
| | §264.53 | Contingency plan copies | Attachment F | | ✓ |
| | §264.54 | Contingency plan amendment | Attachment F | | ✓ |
| | §264.55 | Emergency coordinator | Attachment F | | ✓ |
| | §264.56 | Emergency procedures | Attachment F | | ✓ |
| §270.14(b)(8) | | Description of procedures, structures or equipment for: | Attachment E | | ✓ |
| §270.14(b)(8) (i) | | Prevention of hazards in unloading operations (e.g., ramps and special forklifts) | Attachment E | | ✓ |
| §270.14(b)(8) (ii) | | Runoff or flood prevention (e.g., berms, trenches, and dikes) | Attachment E | | ✓ |
| §270.14(b)(8) (iii) | | Prevention of contamination of water supplies | Attachment E | | ✓ |

| Regulatory Citation(s) 20.4.1.900 NMAC (Incorporating 40 CFR Part 270) | Regulatory Citation(s) 20.4.1.500 NMAC (Incorporating 40 CFR Part 264) | Description of Requirement | Added or Clarified Information | | |
|--|--|---|---|-----|----|
| | | | Section of the HWFP or Permit Application | Yes | No |
| §270.14(b)(8) (iv) | | Mitigation of effects of equipment failure and power outages | Attachment E | | ✓ |
| §270.14(b)(8) (v) | | Prevention of undue exposure of personnel (e.g., personal protective equipment) | Attachment E | | ✓ |
| §270.14(b)(8) (vi) §270.23(a)(2) | §264.601 | Prevention of releases to the atmosphere | Module II Module IV Attachment M2 Attachment N | | ✓ |
| | 264 Subpart C | Preparedness and Prevention | Attachment E | | ✓ |
| | §264.31 | Design and operation of facility | Attachment E | | ✓ |
| | §264.32 | Required equipment | Attachment E Attachment F | | ✓ |
| | §264.33 | Testing and maintenance of equipment | Attachment D | | ✓ |
| | §264.34 | Access to communication/alarm system | Attachment E | | ✓ |
| | §264.35 | Required aisle space | Attachment E | | ✓ |
| | §264.37 | Arrangements with local authorities | Attachment F | | ✓ |
| §270.14(b)(9) | §264.17(a-c) | Prevention of accidental ignition or reaction of ignitable, reactive, or incompatible wastes | Attachment E | | ✓ |
| §270.14(b) (10) | | Traffic pattern, volume, and controls, for example: Identification of turn lanes Identification of traffic/stacking lanes, if appropriate Description of access road surface Description of access road load-bearing capacity Identification of traffic controls | Attachment G | | ✓ |
| §270.14(b) (11)(i) and (ii) | §264.18(a) | Seismic standard applicability and requirements | Part B, Rev. 6 Chapter B | | ✓ |
| §270.14(b) (11)(iii-v) | §264.18(b) | 100-year floodplain standard | Part B, Rev. 6 Chapter B | | ✓ |
| | §264.18(c) | Other location standards | Part B, Rev. 6 Chapter B | | ✓ |
| §270.14(b) (12) | §264.16(a-e) | Personnel training program | Attachment H | | ✓ |
| §270.14(b) (13) | 264 Subpart G | Closure and post-closure plans | Attachment I & J | | ✓ |

| Regulatory Citation(s) 20.A.1.900 NMAC (Incorporating 40 CFR Part 270) | Regulatory Citation(s) 20.A.1.500 NMAC (Incorporating 40 CFR Part 264) | Description of Requirement | Added or Clarified Information | | |
|--|--|--|--|-----|----|
| | | | Section of the HWFP or Permit Application | Yes | No |
| §270.14(b)(13) | §264.111 | Closure performance standard | Attachment I | | ✓ |
| §270.14(b)(13) | §264.112(a)(b) | Written content of closure plan | Attachment I | | ✓ |
| §270.14(b)(13) | §264.112(c) | Amendment of closure plan | Attachment I | | ✓ |
| §270.14(b)(13) | §264.112(d) | Notification of partial and final closure | Attachment I | | ✓ |
| §270.14(b)(13) | §264.112(e) | Removal of wastes and decontamination/dismantling of equipment | Attachment I | | ✓ |
| §270.14(b)(13) | §264.113 | Time allowed for closure | Attachment I | | ✓ |
| §270.14(b)(13) | §264.114 | Disposal/decontamination | Attachment I | | ✓ |
| §270.14(b)(13) | §264.115 | Certification of closure | Attachment I | | ✓ |
| §270.14(b)(13) | §264.116 | Survey plat | Attachment I | | ✓ |
| §270.14(b)(13) | §264.117 | Post-closure care and use of property | Attachment J | | ✓ |
| §270.14(b)(13) | §264.118 | Post-closure plan; amendment of plan | Attachment J | | ✓ |
| §270.14(b)(13) | §264.178 | Closure/containers | Attachment I | | ✓ |
| §270.14(b)(13) | §264.601 | Environmental performance standards-Miscellaneous units | Attachment I | | ✓ |
| §270.14(b)(13) | §264.603 | Post-closure care | Attachment I | | ✓ |
| §270.14(b)(14) | §264.119 | Post-closure notices | Attachment J | | ✓ |
| §270.14(b)(15) | §264.142 | Closure cost estimate | NA | | ✓ |
| | §264.143 | Financial assurance | NA | | ✓ |
| §270.14(b)(16) | §264.144 | Post-closure cost estimate | NA | | ✓ |
| | §264.145 | Post-closure care financial assurance | NA | | ✓ |
| §270.14(b)(17) | §264.147 | Liability insurance | NA | | ✓ |
| §270.14(b)(18) | §264.149-150 | Proof of financial coverage | NA | | ✓ |
| §270.14(b)(19)(i), (vi), (vii), and (x) | | Topographic map requirements Map scale and date Map orientation Legal boundaries Buildings Treatment, storage, and disposal operations Run-on/run-off control systems Fire control facilities | Attachment O Part A Part B, Rev. 6 Chapter B, E | ✓ | |

| Regulatory Citation(s) 20.4.1.900 NMAC (Incorporating 40 CFR Part 270) | Regulatory Citation(s) 20.4.1.500 NMAC (Incorporating 40 CFR Part 264) | Description of Requirement | Added or Clarified Information | | |
|--|--|---|---|-----|----|
| | | | Section of the HWFP or Permit Application | Yes | No |
| §270.14(b) (19)(ii) | §264.18(b) | 100-year floodplain | Attachment O Part A Part B, Rev. 6 Chapter B, E | | ✓ |
| §270.14(b) (19)(iii) | | Surface waters | Attachment O Part A Part B, Rev. 6 Chapter B, E | | ✓ |
| §270.14(b) (19)(iv) | | Surrounding Land use | Attachment O Part A Part B, Rev. 6 Chapter B, E | | ✓ |
| §270.14(b) (19)(v) | | Wind rose | Attachment O Part A Part B, Rev. 6 Chapter B, E | | ✓ |
| §270.14(b) (19)(viii) | §264.14(b) | Access controls | Attachment O Part A Part B, Rev. 6 Chapter B, E, F | | ✓ |
| §270.14(b) (19)(ix) | | Injection and withdrawal wells | Attachment O Part A Part B, Rev. 6 Chapter B, E, F | | ✓ |
| §270.14(b) (19)(xi) | | Drainage on flood control barriers | Part B, Rev. 6 Chapter B, E, F | | ✓ |
| §270.14(b) (19)(xii) | | Location of operational units | Part B, Rev. 6 Chapter B | | ✓ |
| §270.14(b) (20) | | Other federal laws Wild and Scenic Rivers Act National Historic Preservation Act Endangered Species Act Coastal Zone Management Act Fish and Wildlife Coordination Act Executive Orders | Part B, Rev. 6 Chapter K | | ✓ |
| §270.15 | §264 Subpart I | Containers | Attachment M1 | | ✓ |
| | §264.171 | Condition of containers | Attachment M1 | | ✓ |
| | §264.172 | Compatibility of waste with containers | Attachment M1 | | ✓ |
| | §264.173 | Management of containers | Attachment M1 | | ✓ |
| | §264.174 | Inspections | Attachment D Attachment M1 | | ✓ |
| §270.15(a) | §264.175 | Containment systems | Attachment M1 | | ✓ |
| §270.15(c) | §264.176 | Special requirements for ignitable or reactive waste | Attachment E Permit Module II | | ✓ |
| §270.15(d) | §264.177 | Special requirements for incompatible wastes | Attachment E Permit Module II | | ✓ |
| | §264.178 | Closure | Attachment I | | ✓ |
| §270.15(e) | §264.179 | Air emission standards | Attachment E Attachment N | | ✓ |
| §270.23 | 264 Subpart X | Miscellaneous units | Attachment M2 | | ✓ |
| §270.23(a) | §264.601 | Detailed unit description | Attachment M2 | | ✓ |
| §270.23(b) | §264.601 | Hydrologic, geologic, and meteorologic assessments | Permit Module IV Attachment M2 | | ✓ |

| Regulatory Citation(s) 20.4.1.900 NMAC (Incorporating 40 CFR Part 270) | Regulatory Citation(s) 20.4.1.500 NMAC (Incorporating 40 CFR Part 264) | Description of Requirement | Added or Clarified Information | | |
|--|--|--|---|-----|----|
| | | | Section of the HWFP or Permit Application | Yes | No |
| §270.23(c) | §264.601 | Potential exposure pathways | Permit Module IV Attachment M2 Attachment N | | ✓ |
| §270.23(d) | | Demonstration of treatment effectiveness | Permit Module IV Attachment M2 Attachment N | | ✓ |
| | §264.602 | Monitoring, analysis, inspection, response, reporting, and corrective action | Permit Module IV Attachment M2 Attachment N | | ✓ |
| | §264.603 | Post-closure care | Attachment J Attachment J1 | | ✓ |
| | 264 Subpart E | Manifest system, record keeping, and reporting | Permit Module I Permit Module II Permit Module IV Attachment B | | ✓ |

Item 1

Add Additional Waste Number

Description:

Add an additional hazardous waste number (U134, hydrofluoric acid) to the existing WIPP HWFP. This additional number will not require any additional or different management practices at the WIPP facility but will require sufficient testing or acceptable knowledge (AK) at the generator/storage site to ensure that the waste meets the Treatment, Storage, and Disposal Facility (TSDF) Waste Acceptance Criteria (WAC) as currently specified in the WIPP HWFP.

Basis:

The INEEL has requested the addition of a hazardous waste number to the existing WIPP HWFP. This additional number is required to allow disposal of mixed waste with the U134 hazardous waste number at WIPP.

The Permittees previously submitted a request to New Mexico Environment Department (NMED) to add the U134 hazardous waste number. NMED rejected this request in a letter dated July 6, 2001. NMED later stated that there was insufficient information supplied with the request to ensure that any waste which carried the U134 hazardous waste number had been sufficiently characterized to show that the waste met the WIPP TSDF-WAC for compatibility.

Waste assigned this waste number will not exhibit the characteristic of corrosivity. In Appendix C1 of the WIPP HWFP Application, compatibility was assessed using the document entitled *A Method for Determining the Compatibility of Hazardous Wastes*². This report indicated that hydrofluoric acid is classified into Reactivity Group Numbers 1 and 15. Reactivity Group Number 15 was evaluated within the application. Reactivity Group Number 1 no longer applies since the characteristic of corrosivity no longer exists.

Because the hydrofluoric acid has been complexed/neutralized and is no longer detectable in the waste stream and since a sufficient testing or AK of the waste will be made prior to shipment, compatibility is not an issue as demonstrated by the compatibility analysis study shown in Appendix C1 of the WIPP permit application¹. The compatibility analysis utilizes an approach described in the U.S. Environmental Protection Agency Document, *A Method for Determining the Compatibility of Hazardous Wastes*². This study failed to identify any compatibility issues with hydrofluoric acid waste streams from the INEEL evaluated in the Appendix C1 study as shown below:

¹ "Chemical Compatibility Analysis of Waste Forms and Container Materials", WIPP Resource Conservation and Recovery Act Part B Permit Application, Appendix C1, DOE/WIPP 91-005, Revision 6

² Hatayama, H.K., J.J. Chen, E.R. deVera, R.D. Stephens, and D.L. Storm, "A Method For Determining the Compatibility of Hazardous Waste", April, 1980, EPA 600/2-80-076, U.S. Environmental Protection Agency, Cincinnati, Ohio

...interactions between compounds present in trace quantities (<1 percent by weight) and compounds present in concentrations ≤ 1 percent by weight do not pose an incompatibility problem for the following reasons:...

- The waste is either solidified and immobilized (solidified materials) or present in bulk form as a solid (solid materials). In almost all cases, any possible reactions take place before the waste is generated in its final form....

All potential incompatibilities between trace, minor, and dominant compounds have been analyzed on a case-by-case basis for each waste stream reported in Table C-2 (Chapter C). Some chemicals listed as being present in the waste have reacted prior to placement in a waste container. For example, a site listing a caustic (Group 10) and an acid (Group 1) in its waste has only the neutralized product present in an immobilized form. Further reactions of this type do not occur once the waste is neutralized in its final form. An additional constraint on the chemicals and materials that can be present within each waste stream code is their gas generation potential due to radiolysis.

The addition of hazardous waste code U134 will not require any additional or different management practices from those currently in place at the WIPP facility. Furthermore, the addition of this number will not adversely impact the performance of the waste repository and its ability to protect human health or the environment.

Discussion:

The addition of the U134 hazardous waste number is necessary for disposal of INEEL waste from operations, maintenance, and construction activities that carries the U134 hazardous waste number. INEEL currently has approximately 100 cubic meters of transuranic debris (such as personal protective equipment (PPE), analytical tools, clothing, equipment, decontamination media, contaminated job wastes, and High Efficiency Particulate Air filters) contaminated with waste that has been assigned the U134 code due to the Resource Conservation and Recovery Act (RCRA) mixture and derived from rules.

Hazardous Waste Number

U134 is a listed hazardous waste number for unused or off-specification hydrofluoric acid (HF). It is necessary that this hazardous waste number be assigned to waste at the Idaho Nuclear Technology and Engineering Center (INTEC) due to the past practice in the analytical lab of discarding the unused portion of samples collected to verify the quality of HF received in tanker trucks. The total volume of the unused portion of the samples was approximately 2.5 liters of HF. Laboratory personnel neutralized and complexed the HF with excess aluminum nitrate to form a non-corrosive aluminum fluoride complex in a nitric acid matrix and discharged the mixture into the liquid waste storage tanks. Debris associated with this process will also carry the U134 number.

The RCRA derived from rule, as specified in 20.4.1.200 NMAC (incorporating 40 CFR §261.3(c)(2)(i)), requires that any waste that is derived from the treatment of a listed waste is also a listed waste. Even though the concentration of hydrofluoric acid is below detectable limits and even though the toxicity and corrosivity characteristics are no longer

applicable to this waste stream, the U134 hazardous waste number must be assigned to all waste, waste residues, contaminated equipment, and debris associated with the waste.

The WIPP HWFP also requires that treated waste must retain the original listed hazardous waste numbers that applied to the original untreated waste. Section B-3d of the WIPP HWFP states that "Treated waste shall be considered newly generated waste, and shall retain the original waste stream's listed hazardous waste code designation."

Waste Form

Debris waste from INTEC will meet the WAC for WIPP. The specific treatment for the waste will comply with the current WIPP permit and associated WAC. The final packaged waste will not be corrosive as defined by 20.4.1.200 NMAC (incorporating 40 CFR §261.22) because the INEEL will be required to show through acceptable knowledge or testing and analysis (visual inspection or similar testing) that the debris waste form does not contain liquid waste. Information will be placed in the Characterization Information Summary (Section B3-12b(1)) to ensure that this requirement is met and that the final waste form meets the WIPP TSDF-WAC.

Corrosivity is defined by the NMED in 20.4.1. 200 NMAC (incorporating 40 CFR §261.22) as follows: "It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using Method 9040 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, as incorporated by reference in §260.11 of this chapter. It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55°C (130°F) as determined by the test method....."

The WIPP HWFP (Section B-3c) requires that 100 percent of all containers undergo radiography or visual examination to verify that the TSDF-WAC and the WIPP HWFP prohibitions on liquids are met. Thus, the waste carrying the U134 hazardous waste number cannot meet the regulatory definition of a corrosive material, because the definition of corrosivity requires that the material being examined is liquid. Because all waste containers undergo radiography or visual examination, to verify the absence of liquid waste, no corrosive waste will be shipped to the WIPP facility.

Proposed Revised Permit Text:

a. 1. Module II.C.4

| Table II.C.4 - Permitted TRU Mixed Wastes | | |
|--|---|---|
| EPA Hazardous Waste Code | Hazardous Waste | Chemical Abstract Number |
| F001 | <u>Spent halogenated solvents:</u> Tetrachloroethylene Trichloroethylene Methylene chloride 1,1,1-Trichloroethane Carbon tetrachloride Chlorinated fluorocarbons | 127-18-4 79-01-6 75-09-2 71-55-6 56-23-5 NA |
| F002 | <u>Spent halogenated solvents:</u> Tetrachloroethylene Methylene chloride Trichloroethylene 1,1,1-Trichloroethane Chlorobenzene 1,1,2-Trichloro-1,2,2-trifluoroethane Ortho-dichlorobenzene Trichlorofluoromethane 1,1,2-Trichloroethane | 127-18-4 75-09-2 79-01-6 71-55-6 108-90-7 76-13-1 95-50-1 75-69-4 79-00-5 |
| F003 | <u>Spent non-halogenated solvents:</u> Xylene Acetone Ethyl acetate Ethyl benzene Ethyl ether Methyl isobutyl ketone n-Butyl alcohol Cyclohexanone Methanol | 1330-20-7 67-64-1 141-78-6 100-41-4 60-29-7 108-10-1 71-36-3 108-94-1 67-56-1 |
| F004 | <u>Spent non-halogenated solvents:</u> Cresols and cresylic acid Nitrobenzene | 1319-77-3 98-95-3 |
| F005 | <u>Spent non-halogenated solvents:</u> Toluene Methyl ethyl ketone Carbon disulfide Isobutanol Pyridine Benzene 2-Ethoxyethanol 2-Nitropropane | 108-88-3 78-93-3 75-15-0 78-83-1 110-86-1 71-43-2 110-80-5 79-46-9 |

| Table II.C.4 - Permitted TRU Mixed Wastes | | |
|---|---|--|
| EPA Hazardous Waste Code | Hazardous Waste | Chemical Abstract Number |
| F006 | <u>Wastewater treatment sludges from electroplating operations:</u> Cadmium Chromium Cyanide Lead Nickel Silver | 7440-43-9 7440-47-3 57-12-5 7439-92-1 7440-02-0 7440-22-4 |
| F007 | <u>Spent cyanide plating bath solutions from electroplating operations:</u> See F006 | |
| F009 | <u>Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process:</u> See F006 | |
| D004 | Arsenic | 7440-38-2 |
| D005 | Barium | 7440-39-3 |
| D006 | Cadmium | 7440-43-9 |
| D007 | Chromium | 7440-47-3 |
| D008 | Lead | 7439-92-1 |
| D009 | Mercury | 7439-97-6 |
| D010 | Selenium | 7782-49-2 |
| D011 | Silver | 7440-22-4 |
| D018 | Benzene | 71-43-2 |
| D019 | Carbon Tetrachloride | 56-23-5 |
| D021 | Chlorobenzene | 108-90-7 |
| D022 | Chloroform | 67-66-3 |
| D026 | Cresol | 1319-77-3 |
| D027 | 1,4-Dichlorobenzene | 106-46-7 |
| D028 | 1,2-Dichloroethane | 107-06-2 |
| D029 | 1,1-Dichloroethylene | 75-35-4 |
| D030 | 2,4-Dinitrotoluene | 121-14-2 |
| D032 | Hexachlorobenzene | 118-74-1 |
| D034 | Hexachloroethane | 67-72-1 |
| D035 | Methyl ethyl ketone | 78-93-3 |
| D036 | Nitrobenzene | 98-95-3 |
| D037 | Pentachlorophenol | 87-86-5 |
| D038 | Pyridine | 110-86-1 |
| D039 | Tetrachloroethylene | 127-18-4 |

| Table II.C.4 - Permitted TRU Mixed Wastes | | |
|---|---------------------------|--------------------------|
| EPA Hazardous Waste Code | Hazardous Waste | Chemical Abstract Number |
| D040 | Trichloroethylene | 79-01-6 |
| D043 | Vinyl chloride | 75-01-4 |
| P015 | Beryllium powder | 7440-41-7 |
| P120 | Vanadium Pentoxide | 1314-62-1 |
| U002 | Acetone | 67-64-1 |
| U019 | Benzene | 71-43-2 |
| U037 | Chlorobenzene | 108-90-7 |
| U043 | Vinyl Chloride | 75-01-4 |
| U044 | Chloroform | 67-66-3 |
| U052 | Cresol | 1319-77-3 |
| U070 | 1,2-Dichlorobenzene | 95-50-1 |
| U072 | 1,4-Dichlorobenzene | 106-46-7 |
| U078 | 1,1-Dichloroethylene | 75-35-4 |
| U079 | 1,2-Dichloroethylene | 156-60-5 |
| U105 | 2,4-Dinitrotoluene | 121-14-2 |
| U122 | Formaldehyde | 50-00-0 |
| U133 | Hydrazine | 302-01-2 |
| U134 | Hydrofluoric Acid | 7664-39-3 |
| U151 | Mercury | 7439-97-6 |
| U154 | Methanol | 67-56-1 |
| U159 | Methyl Ethyl Ketone | 78-93-3 |
| U196 | Pyridine | 110-86-1 |
| U209 | 1,1,2,2-Tetrachloroethane | 79-34-5 |
| U210 | Tetrachloroethylene | 127-18-4 |
| U220 | Toluene | 108-88-3 |
| U226 | 1,1,1-Trichloroethane | 71-55-6 |
| U228 | Trichloroethylene | 79-01-6 |
| U239 | Xylene | 1330-20-7 |

b.1. Attachment B3, Section B3-12b(1)Waste Stream Profile Form and Characterization Information Summary

The Characterization Information Summary includes the following elements:

1. Data reconciliation with DQOs
2. Cross-reference of container identification numbers to each Batch Data Report

3. Headspace gas summary data listing the identification numbers of samples used in the statistical reduction, the maximum, mean, standard deviation, UCL_{90} , RTL, and associated EPA hazardous waste codes that must be applied to the waste stream.
4. TIC listing and evaluation, and verification that AK was confirmed.
5. RTR and VE summary to document prohibited items are not present and to confirm AK.
6. AK summary including waste stream name, waste stream number, point of generation, waste stream volume, generation dates, TRUCON codes, TWBIR information, generating processes, RCRA determinations, and radionuclide information.
7. Certification through acceptable knowledge or testing and/or analysis that any waste assigned the hazardous waste number of U134 (hydrofluoric acid) no longer exhibits the characteristic of corrosivity. This is confirmed by assuring that no liquid waste is present.

After approval of a Waste Stream Profile Form and the Associated Characterization Information Summary by the Permittees, the generator/storage site are required to maintain a cross reference of container identification numbers to each Batch Data Report.

c.1. Attachment O, Part A Application

A revised Part A Application is included in Attachment B. [Note: A signed copy of the revised Part A Permit Application will be provided to NMED following approval of the PMR.]



GARY E. JOHNSON
GOVERNOR

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ENVIRONMENT DEPARTMENT

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JOHN R. D'ANTONIO, Jr.
SECRETARY

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

November 25, 2002

| | | | |
|-------------------|--------------|---------|--------------|
| Post-it® Fax Note | 7671 | Date | # of pages |
| To | Dave Strong | From | Steve Zappa |
| Co./Dept | WTS | Co. | NMED |
| Phone # | 505 234-7262 | Phone # | 505 428 2517 |
| Fax # | 234-7113 | Fax # | 428 2567 |

Dr. Inés Triay, Manager
Carlsbad Field Office
Department of Energy
P. O. Box 3090
Carlsbad, New Mexico 88221-3090

JOHN LEE, General Manager
Westinghouse TRU Solutions LLC
P.O. Box 2078
Carlsbad, New Mexico 88221-5608

**RE: FINAL DETERMINATION, CLASS 2 MODIFICATION REQUESTS
WIPP HAZARDOUS WASTE FACILITY PERMIT
EPA I.D. NUMBER NM4890139088**

Dear Dr. Triay and Mr. Lee:

The New Mexico Environment Department (NMED) hereby approves, with changes, certain Class 2 permit modification requests to the WIPP Hazardous Waste Facility Permit as submitted to the Hazardous Waste Bureau (HWB) in the following documents:

- Request for Class Determination and Permit Modification (Data Management), Letter Dated 6/27/02, Rec'd 6/28/02
- Request for Class Determination and Permit Modification (Waste Containers), Letter Dated 6/27/02, Rec'd 6/28/02
- Request for Class 2 Permit Modification (Waste Characterization Update), Letter Dated 6/27/02, Rec'd 6/28/02

The following items were included in these three submittals:

1. Improving Data Management to Streamline the Disposal of Transuranic Waste
2. Characterizing Repackaged Homogenous Solids as Retrievably Stored Waste
3. Use of Radiography for Newly Generated Waste

Dr. Inés Triay
Mr. John Lee
November 25, 2002
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4. Addition of HalfPACT Shipping Container
5. Addition of a New Hazardous Waste Number
6. Record Keeping and Auditing for Classified Information
7. Addition of New Waste Containers

In these submittals, the Permittees requested class determinations for Items 1 and 7. On July 22, 2002, NMED issued a Notice of Class Determination, identifying Item 1 as a Class 3 modification and Item 7 as a Class 2 modification. While all Items were subject to the same public comment period, NMED is only issuing a determination today on Items 2 through 7. The Class 3 modification will be addressed under a separate administrative action at a later date.

The remaining Class 2 modifications were processed by NMED in accordance with the requirements specified in 204.1.900 NMAC (incorporating 40 CFR §270.42(b)). These Class 2 modifications were subject to an initial sixty (60) day public comment period, which ran from July 3 through September 3, 2002. On August 8, 2002, NMED extended the public comment period by thirty (30) days until October 3, 2002. NMED received written comments from forty individuals and organizations during this time.

NMED hereby approves Items 2 through 7 with changes based upon consideration of all public comment. The approved modifications are incorporated in the following attachment:

- Attachment 1 contains the redline/strikeout pages of the modified permit to help the reader rapidly identify each modification. Language deleted from the permit is ~~stricken out~~. Language added to the permit is highlighted in redline. Due to the extensive nature of the modifications requested by the Permittees, specific language changes imposed by NMED are not distinguished from language changes proposed in the modification request.

Also enclosed is a CD-ROM containing the modified files in WordPerfect 8 redline/strikeout format. An electronic version of the modified permit with markings removed is available for download from the NMED WIPP Information Page at <http://www.nmenv.state.nm.us/wipp/download.html>.

For purposes of version control, please note that NMED has established the date of these modified pages and attachments as November 25, 2002. The effective date of the permit modification approval is your date of receipt of this letter.

NMED will provide full response to all public comments under separate cover.

Dr. Inés Triay
Mr. John Lee
November 25, 2002
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If you have any questions regarding this matter, please contact Steve Zappe at (505) 428-2517.

Sincerely,



Gregory J. Lewis
Director
Water and Waste Management Division

GJL/s02

Attachment 1 – redline/strikeout pages

cc w/o Attachment:

Paul Ritzma, NMED
James Bearzi, NMED HWB
John Kielling, NMED HWB
Steve Zappe, NMED HWB
Laurie King, EPA Region 6
Betsy Forinash, EPA ORIA

cc w/ Attachment

Chuck Noble, NMED OGC
Connie Walker, Trinity Engineering
File: Red WIPP '02

**RESOURCE CONSERVATION AND RECOVERY ACT
HAZARDOUS WASTE CONTAINER STORAGE FACILITY
OPERATING PERMIT
EPA ID No. NMD002208627**

to

RINCHEM COMPANY, INC.

for the

CONTAINER STORAGE FACILITY

Located at

6133 EDITH BOULEVARD N.E., ALBUQUERQUE, NEW MEXICO

Prepared by the

**NEW MEXICO ENVIRONMENT DEPARTMENT
HAZARDOUS WASTE BUREAU
2905 RODEO PARK DRIVE EAST
BUILDING 1
SANTA FE, NEW MEXICO, 87505-6303**

DECEMBER 2001

**RESOURCE CONSERVATION AND RECOVERY ACT
HAZARDOUS WASTE CONTAINER STORAGE FACILITY
OPERATING PERMIT
EPA ID No. NMD002208627**

to

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HAZARDOUS WASTE BUREAU
2905 RODEO PARK DRIVE EAST
BUILDING 1
SANTA FE, NEW MEXICO, 87505-6303**

DECEMBER 2001

HAZARDOUS WASTE FACILITY PERMIT

Name of Permittee: Rinchem Company, Inc.

EPA Identification Number: NMD002208627

Permit Number: NMD002208627-2

Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6901, et seq.), and the New Mexico Hazardous Waste Act, NMSA 1978, Sections 74-4-1 et seq. (Repl. Pamph. 1993), and regulations promulgated thereunder by the New Mexico Environmental Improvement Board (codified and to be codified in the Hazardous Waste Management Regulations [20.4.1 NMAC]), a Permit is issued to Rinchem Company, Inc., (the Permittee) to operate a hazardous waste Container Storage Facility (the Facility), comprising seven rooms. The Facility is located at 6133 Edith Boulevard N.E., in the City of Albuquerque, Bernalillo County, New Mexico, on Latitude 35.15 North, and Longitude 106.63 West.

The Permittee shall comply with all terms and conditions of this Permit. This Permit consists of the conditions herein including those in the Attachments. Applicable provisions of regulations cited are those which are in effect on the effective date of this permit, New Mexico Hazardous Waste Management Regulations 20.4.1 NMAC (Effective June 14, 2000).

This Permit is based on the assumption that all information contained in the Permit Application and the administrative record is accurate and that the Facility shall be maintained and operated as specified in the application. The permit application consists of information submitted in February 1998 and supplementary technical documents.

Any inaccuracies found in the submitted information may be grounds for the termination or modification of this Permit in accordance with 20.4.1.900 NMAC, incorporating 40 CFR §270.41, §270.42, and §270.43 and for potential enforcement action.

This Permit shall become effective thirty days (30) after notice of the decision has been served on the applicant, and shall remain in effect for ten (10) years in accordance with the New Mexico Hazardous Waste Act, Section 74-4-4 unless modified, suspended or revoked under Section 74-4-4.2 or 20.4.1.900 NMAC, incorporating 40 CFR §270.41, §270.42, §270.43, or continued in accordance with 20.4.1.900 NMAC, incorporating 40 CFR §270.51, or issued for a duration that is less than the full allowable term in accordance with 20.4.1.900 NMAC, incorporating 40 CFR §270.50(c).

Signed this _____ day of February 2002.

by _____
Peter Maggiore
Secretary
New Mexico Environment Department

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LIST OF ACRONYMS

| | |
|--------|---|
| AOC | Area of Concern |
| AMU | Atomic Mass Unit |
| ASTM | American Society for Testing and Materials |
| BGS | Below Ground Surface |
| CAMU | Corrective Action Management Unit |
| CEC | Cation Exchange Capacity |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| | |
| CES | Civil Engineering Squadron |
| CFR | Code of Federal Regulations |
| CMS | Corrective Measure Study |
| COC | Chain of Custody |
| CSF | Container Storage Facility |
| DOT | U.S. Department of Transportation |
| DQO | Data Quality Objectives |
| EC | Emergency Coordinator |
| EPA | U.S. Environmental Protection Agency |
| GC/MS | Gas Chromatography/Mass Spectrometry |
| HWB | Hazardous Waste Bureau |
| HWA | New Mexico Hazardous Waste Act |
| KOP | Knowledge of Process |
| MOU | Memorandum of Understanding |
| MSDS | Material Safety Data Sheet |
| MS/MSD | Matrix Spike/Matrix Spike Duplicate |
| NERI | Northeast Research Institute |
| NMAC | New Mexico Administrative Code |
| NMED | New Mexico Environment Department |
| PARCC | Precision, Accuracy, Representativeness, Completeness, and Comparability |
| | |
| PCBs | Polychlorinated Biphenyls |
| PID | Photo-ionization Detector |
| PPE | Personal Protective Equipment |
| QA/QC | Quality Assurance/Quality Control |
| QAPP | Quality Assurance Project Plans |
| RCI | Rinchem Company, Inc. |
| RCRA | Resource Conservation and Recovery Act |
| RFI | RCRA Facility Investigation |
| SAP | Sampling and Analysis Plan |
| SAR | SWMU Assessment Report |
| SCBA | Self Contained Breathing Apparatus |
| SOP | Standard Operating Procedures |
| SVOCs | Semi Volatile Organic Compounds |

LIST OF ACRONYMS (Continued)

| | |
|------|---|
| SWMU | Solid Waste Management Unit |
| TSCA | Toxic Substances Control Act |
| TSDF | Treatment, Storage and Disposal Facility |
| VOCs | Volatile Organic Compounds |
| WAP | Waste Analysis Plan |
| WQCC | New Mexico Water Quality Control Commission |

MODULE I GENERAL PERMIT CONDITIONS

MODULE HIGHLIGHT

This Module contains conditions pertaining to all hazardous waste storage facilities permitted under the New Mexico Hazardous Waste Act (HWA) and the Resource Conservation and Recovery Act (RCRA).

PERMIT CONSTRUCTION: CITATIONS

Whenever provisions of this Permit or of the New Mexico Hazardous Waste Management Regulations (HWMR), 20.4.1 NMAC, incorporating 40 CFR Parts 260 through 270 are cited, the citation shall include all subordinate provisions of the cited provision paragraphs of this Permit or of the HWMR. When subordinate sections are cited, such citations shall include all subsections of the cited paragraphs.

I.A. EFFECT OF PERMIT

The Secretary of the New Mexico Environment Department (**Secretary**) issues this Permit to Rinchem Company Inc., (**the Permittee**) the owner and operator of a Container Storage Facility (EPA I.D. Number NMD002208627). This Permit authorizes the Permittee to accept, manage and store off-site generated hazardous waste at the Facility, and establishes the general and specific standards for these activities, pursuant to the New Mexico Hazardous Waste Act (HWA) NMSA 1978, §74-4-1 et seq. (Repl. Pamp. 1993), and the New Mexico Hazardous Waste Management Regulations, 20.4.1.100 NMAC et seq.

Compliance with this Permit during its term shall constitute compliance for purposes of enforcement with Subtitle C of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §6901 et seq., and/or HWA, and/or their implementing regulations. Compliance with this Permit shall not constitute a defense to any order issued or any action brought under HWA §§74-4-10.1.E or 74-4-13; RCRA §§3008(a), 3008(h), 3013, 7002, or 7003; the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. §9601 et seq., or any other law providing for protection of public health or the environment. This Permit does not convey any property rights of any sort or any exclusive privilege, nor authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local laws or regulations, in accordance with 20.4.1.900 NMAC, incorporating 40 CFR §§270.4 and 270.30(g).

The complete Permit consists of Permit Modules I through V and Permit Attachments A through L as follows:

| | | |
|------------|---|--|
| Module I | - | General Permit Conditions |
| Module II | - | General Facility Conditions |
| Module III | - | Storage of Hazardous Waste in Containers |

PERMIT MODULE I

| | | |
|--------------|---|--|
| Module IV | - | Corrective Action |
| Module V | - | Subpart CC Standards for Organic Air Emissions |
| Attachment A | - | General Facility Description |
| Attachment B | - | Authorized Wastes |
| Attachment C | - | Design and Operation of the Container Storage Facility |
| Attachment D | - | Waste Analysis Plan |
| Attachment E | - | Security Plan |
| Attachment F | - | Inspection Plan |
| Attachment G | - | Preparedness and Prevention Procedures |
| Attachment H | - | Contingency Plan |
| Attachment I | - | Record Keeping |
| Attachment J | - | Personnel Training |
| Attachment K | - | Closure Plan |
| Attachment L | - | Corrective Action Units |
| Attachment M | - | Financial Insurance |

If there is a conflict between the language of the Permit Modules and the language of the Permit Attachments, the language of the Permit Modules shall override the language in the Permit Attachments.

I.B. PERMIT ACTIONS

I.B.1. Term of Permit

This Permit shall be effective for a fixed period of ten (10) years from the effective date of issuance as specified in the Permit certificate. [20.4.1.900 NMAC, incorporating 40 CFR §270.50(a)].

I.B.2. Permit Modification, Suspension and Revocation

This Permit may be modified, suspended, or revoked for cause as specified in HWA §74-4-4.2 and 20.4.1.900 NMAC, incorporating 40 CFR §270.41 through §270.43. The filing of a request by the Permittee for a Permit modification, suspension, or revocation, or the notification of planned changes or anticipated noncompliance, shall not stay any Permit condition, in accordance with 20.4.1.900 NMAC, incorporating 40 CFR §270.30(f).

I.B.3 Permit Renewal

Permittee may renew this Permit by submitting an application for a new permit at least one hundred eighty (180) calendar days before the expiration date of this Permit. In reviewing any application for a permit renewal, the Secretary shall consider improvements in the state of control and measurement technology and changes in applicable regulations. [20.4.1.900 NMAC (incorporating 40 CFR §270.10(h) and §270.30(b))].

I.B.4 Continuation of Expiring Permit

If the Permittee has submitted a timely and complete application for renewal of this Permit, as specified in 20.4.1.900 NMAC (incorporating 40 CFR §270.10, §270.13 through §270.29), this Permit shall remain in effect until the effective date of the new permit if, through no fault of the Permittee, the Secretary has not issued a new permit on or before the expiration date of this Permit. [20.4.1.900 NMAC (incorporating 40 CFR §270.51)].

I.B.5. Permit Review

The Secretary shall review this Permit no later than five (5) years after the effective date of this Permit, and shall modify this Permit as necessary pursuant to Section §74-4-4.2 of the HWA and 20.4.1.900 NMAC (incorporating 40 CFR §270.41, §270.50(b) and §270.50(d)). Such modification(s) shall not extend the effective term of this Permit as specified in Permit Condition I.B.1. [20.4.1.900 NMAC, incorporating 40 CFR §270.41, §270.50(b) and §270.50(d)].

I.B.6. Scope of Permit

This Permit authorizes the management and storage of hazardous wastes only in the seven rooms of the Facility, as defined herein, and at no other locations on the Facility.

I.C. SEVERABILITY

The provisions of the Permit are severable, and if any provision of this Permit, or any application of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby.

I.D. DEFINITIONS

For purposes of this Permit, terms used herein shall have the same meanings as those in HWA, RCRA, and their implementing regulations, unless this Permit specifically provides otherwise.

Where a term is not defined in HWA, RCRA, pursuant regulations, EPA guidelines or publications, or this Permit, the meaning associated with such a term shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

“Action levels” are health-based concentrations of hazardous constituents determined by the secretary to be indicators for the protection of human health and/or the environment.

“Area of Concern” (AOC) means any discernable area at the Facility, or an area off-site impacted by migration of contamination from the Facility, where the Secretary determines may have a probable release of hazardous waste or hazardous constituents not from a SWMU and may cause a current or potential threat to human health or the environment. An AOC may require investigation and remedial action under Section 74-4-4.2.B of the HWA or 20.4.1.900 NMAC (incorporating 40 CFR §270.32(b)(2), in order to ensure adequate protection of human health and the environment.

“Container Storage Unit” (CSU) for the purposes of this Permit is used synonymously with the Rinchem Company Container Storage Facility which comprises seven storage rooms.

A **“Corrective Action Management Unit” (CAMU)** includes any area within the Rinchem Facility that is designated by the Secretary under the HWA and its regulations, for the purpose of implementing corrective action requirements. A CAMU shall only be used for the management of remediation wastes pursuant to implementing such corrective action requirements at the Facility.

“Corrective Measures” include all corrective action necessary to protect human health and the environment for all releases of hazardous waste or hazardous constituents from any solid waste management unit at the Facility, regardless of the time at which waste was placed in the unit, as required under Section 74-4-4.2.B of the HWA and 20.4.1.500 NMAC, incorporating 40 CFR §264.101. Corrective measures may address releases to air, soils, surface water or groundwater.

“Extent of contamination” is defined as the horizontal and vertical area in which the concentrations of hazardous constituents in the environmental media being investigated are above detection limits or background concentrations indicative of the region, whichever is appropriate as determined by the Secretary.

“Facility” means Rinchem Company, Inc. Container Storage Facility including all contiguous land, and structures, other appurtenances, and improvements on the land, used for managing and storing hazardous waste, located at 6133 Edith Boulevard, NE, Albuquerque, New Mexico. For the purposes of implementing corrective action under 20.4.1.500 NMAC, incorporating 40 CFR §264.101, or RCRA Section 3008(h), HWA 74-4-10.E. The Facility includes all contiguous property under the control of the owner or operator seeking a permit under 20.4.1 NMAC, incorporating 40 CFR 260-270. [20.4.1.100 NMAC, incorporating 40 CFR §260.10.]

"Foreign Source" refers to hazardous waste generated outside the United States of America.

"Hazardous Constituents" are those substances listed in 20.4.200 NMAC, incorporating 40 CFR §261 Appendix VIII, and 20.4.1.500 NMAC, incorporating 40 CFR §264 Appendix IX.

"Hazardous Waste" means a hazardous waste as defined in Section 74-4-3(I) of HWA, and 20.4.1.200 NMAC, incorporating 40 CFR §261.3.

"He" means "he" or "she" as appropriate.

"Interim Measures" are actions necessary to minimize or prevent the further migration of contaminants and limit actual or potential human and environmental exposure to contaminants while long-term corrective action remedies are evaluated and, if necessary, implemented.

"Off-Site Source" means a generator of hazardous waste located within the United States of America, but outside the Permittee's Facility boundary.

"Release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of any hazardous waste or hazardous constituents into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous waste or hazardous constituents).

"Remediation Waste" for the purposes of this permit includes all solid and hazardous wastes, and all media (including groundwater, surface water, soils, and sediments) and debris, which contain listed hazardous wastes or which themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing corrective action requirements. For the Facility, remediation wastes may originate only from within the Facility boundary, but may include releases beyond the Facility boundaries.

"Secretary" means the Secretary of the New Mexico Environment Department or his designee or authorized representative.

A **"Solid Waste Management Unit"** (SWMU) means any discernable unit in which solid waste has been placed at any time, irrespective of whether the unit is or ever was intended for the management of solid waste. RCRA regulated hazardous waste management units are also solid waste management units. SWMUs include areas that have been contaminated by routine and systematic releases of hazardous waste or hazardous constituents, excluding one-time accidental spills that are immediately remediated and cannot be linked to solid waste management activities (e.g. product or process spills).

I.E. DUTIES AND REQUIREMENTS

I.E.1. Duty to Comply

The Permittee shall comply with all conditions in this Permit, except to the extent and for the duration such noncompliance is authorized in an Emergency Permit specified in 20.4.1.900 NMAC, incorporating 40 CFR §270.61. Any Permit noncompliance, except under the terms of an Emergency Permit, constitutes a violation of HWA and/or RCRA and may subject the Permittee, its successors and assigns, officers, directors, employees, parents, or subsidiaries, to an administrative or civil enforcement action, including civil penalties and injunctive relief, as specified under §74-4-10 or §74-4-10.1 of HWA or Sections 3008(a) and (g), 7002, or 7003 of RCRA; to permit modification, suspension, revocation, or denial of a permit application or modification request under §74-4-4.2 of HWA; or to criminal fines or imprisonment under HWA Section 74-4-11 or Section 3008(d), (e), or (f) of RCRA; or to a combination of the foregoing. [20.4.1.900 NMAC, incorporating 40 CFR §270.30(a)]

I.E.2. Duty to Reapply

If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittee shall apply for and obtain a new permit. The Permittee shall submit a complete application for a new permit at least 180 calendar days before the expiration date of this Permit, unless permission for a later date has been granted by the Secretary [20.4.1.900 NMAC, incorporating 40 CFR §270.10(h) and §270.30(b)]. The Secretary shall not grant permission for applications to be submitted later than the expiration date of the existing Permit.

I.E.3. Transfer of Permit

The Permittee shall not transfer this Permit to any person except after providing notice to the Secretary and receiving approval from the Secretary for this action. The prospective new owner or operator must file a disclosure statement with the Secretary as specified at HWA, §74-4-4.7. The Secretary may require modification or revocation and reissuance of this Permit in accordance with 20.4.1.900 and 20.4.1.901 NMAC, incorporating 40 CFR §270.40(b) and §270.41(b)(2).

Before transferring ownership or operation of the Facility during its active life or post-closure care period, the Permittee shall notify the new owner or operator in writing of the requirements of 20.4.1.500 NMAC, incorporating 40 CFR Part 270, and of this Permit. [20.4.1.900 NMAC, incorporating 40 CFR §270.30(1)(3) and §270.40)].

I.E.4. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the terms of this Permit, as provided by 20.4.1.900 NMAC, incorporating 40 CFR §270.30(c).

I.E.5. Duty to Mitigate

In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment, as required by 20.4.1.900 NMAC, incorporating 40 CFR §270.30(d).

I.E.6. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit as required by 20.4.1.900 NMAC, incorporating 40 CFR §270.30(e).

I.E.7. Duty to Provide Information

The Permittee shall furnish to the Secretary, within a reasonable time as specified by the Secretary, any relevant information which the Secretary may request to determine whether cause exists for modifying, suspending, or revoking this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Secretary, upon request, copies of records required to be kept by this Permit as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.74(a) and 20.4.1.900 NMAC, incorporating 40 CFR §270.30(h).

Permit Condition I.E.7 shall not be construed to limit, in any manner, the Secretary's authority under HWA§74-4-4.3 or RCRA § 3007(a).

I.E.8. Inspection and Entry

The Permittee shall allow the Secretary, or authorized representatives, upon the presentation of credentials and other documents as may be required by law, the following entry and inspection privileges specified in 20.4.1.900 NMAC, incorporating 40 CFR §270.30(i):

I.E.8.a. Entrance to premises - to enter at reasonable times into the Permittee's premises where the regulated Facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;

I.E.8.b. Access to records - to have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

I.E.8.c. Inspection - to inspect at reasonable times the Facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

I.E.8.d. Sampling - to sample or monitor at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by RCRA and/or HWA, any substances or parameters, including soil, surface water, and ground water at the Facility.

Permit Condition I.E.8 shall not be construed to limit, in any manner, the Secretary's authority under HWA §74-4-4.3 or RCRA § 3007(a).

I.E.9. Monitoring and Records

I.E.9.a. Representative sampling

For purposes of monitoring, the Permittee shall take samples and measurements representative of the monitored activity as required by 20.4.1.900 NMAC, incorporating 40 CFR §270.30(j)(1), and the procedures stipulated in Permit Condition II.C.2.

I.E.9.b. Record retention

The Permittee shall retain records of all ground water monitoring information, including all calibration and maintenance records, well logs, copies of all reports and records required by this Permit, the waste minimization certification required by 20.4.1.500 NMAC, incorporating 40 CFR §264.73(b)(9), and records of all data used to complete the Permit Application for a period of at least three (3) years from the date of the sample, measurement, report, record, certification, or application as required by 20.4.1.900 NMAC incorporating 40 CFR §270.30(j)(2). This period may be extended by request of the Secretary at any time and is automatically extended during the course of any unresolved enforcement action regarding this Facility.

I.E.9.c. Monitoring records contents

PERMIT MODULE I

In accordance with 20.4.1.900 NMAC, incorporating 40 CFR §270.30(j)(3), records of monitoring information shall include:

- i. the dates, exact place, and times of sampling or measurements;
- ii. the names and qualifications of the individuals who performed the sampling or measurements;
- iii. the name and address of the laboratory that performed the analysis;
- iv. the dates analyses were performed;
- v. the names and qualifications of the individuals who performed the analyses;
- vi. the analytical techniques or methods used; and
- vii. the results of such analyses.

I.E.10. Reporting Planned Changes

The Permittee shall give notice to the Secretary, as soon as possible, of any planned physical alterations or additions to the Facility, as required by 20.4.1.900 NMAC, incorporating 40 CFR §270.30(l)(1).

I.E.11. Reporting Anticipated Noncompliance

The Permittee shall give advance notice to the Secretary of any planned changes to the Facility or in any activities, which may result in noncompliance with Permit requirements, as required by 20.4.1.900 NMAC, incorporating 40 CFR §270.30(l)(2).

I.E.12. Certification of Construction or Modification

If the Facility is modified, the Permittee shall not store hazardous waste in the modified portion of the Facility, until the following conditions specified in 20.4.1.900 NMAC, incorporating 40 CFR §270.30(1)(2), have been satisfied:

- I.E.12.a. Submittal of statement** - the Permittee has submitted to the Secretary, by certified mail or hand delivery, a letter signed by the Permittee

and an independent professional engineer registered in New Mexico stating that the Facility modification meets the requirements of this Permit; and

I.E.12.b. Inspection by the Secretary - the Secretary has:

- i. inspected the modified or newly constructed portion of the Facility and finds it is as required by the conditions of this Permit; or
- ii. waived the inspection or, within fifteen (15) calendar days from the date of submission of the letter required by Permit Condition I.E.11.a., has not notified the Permittee of his intent to inspect.

I.E.13. Twenty-Four Hour and Subsequent Reporting

I.E.13.a. Oral report - The Permittee shall report to the Secretary any noncompliance which may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances, as required by 20.4.1.900 NMAC, incorporating 40 CFR §270.30(1)(6)(i). The report shall include the following:

- i. information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies; and
- ii. any information of a release or discharge of hazardous waste, or of a fire or explosion at the Facility, which could threaten the environment or human health outside the Facility.

I.E.13.b. Written report - The Permittee shall submit a written report within five (5) calendar days from the time the Permittee becomes aware of the noncompliance as required by 20.4.1.900 NMAC, incorporating 40 CFR §270.30(1)(6)(iii). The written report shall contain the following:

- i. a description of the noncompliance and its cause;
- ii. name, address, and telephone number of the owner or operator;
- iii. name, address, and telephone number of the Facility;
- iv. the period of the occurrence including exact date and time, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue;

- v. name and quantity of materials involved;
- vi. the extent of injuries, if any;
- vii. an assessment of actual or potential hazards to the environment and human health outside the Facility, where this is applicable;
- viii. estimated quantity and disposition of recovered material that resulted from the incident; and
- ix. steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

The Secretary may extend the time for submitting the written report to up to fifteen (15) calendar days.

I.E.13.c. Contingency Plan implementation - If the Contingency Plan provided in Permit Attachment H is implemented, the Permittee shall comply with the reporting requirements required by 20.4.1.500 NMAC, incorporating 40 CFR §264.56(j).

I. E.14. Corrective Action

Corrective action required pursuant to 20.4.1.500 NMAC, incorporating 40 CFR §264.101 shall continue under this Permit for any period necessary to comply with the requirements specified in Module IV of this Permit.

I.E.15. Other Noncompliance

The Permittee shall report all other instances of noncompliance not otherwise required to be reported under this Permit at the time monitoring reports are submitted. The reports shall contain the information listed in Permit Condition I.E.13.b., as required by 20.4.1.900 NMAC, incorporating 40 CFR §270.30(l)(10).

I.E.16. Other Information

Whenever the Permittee becomes aware that he failed to submit any relevant facts in the Permit Application, or submitted incorrect information in the Permit Application or in any report to the Secretary, the Permittee shall promptly submit such facts or information in writing to the Secretary as required by 20.4.1.900 NMAC, incorporating 40 CFR §270.30(l)(11).

I.E.17. Waiver of Defense.

In any judicial action brought in the United States District Court for the District of New Mexico under RCRA (or under the HWA), the Permittee waives all objections and defenses it may have to the jurisdiction of such Federal Court or to venue in such Federal District.

I.E.18. Admissibility of Data

In any administrative or judicial action to enforce a condition of this Permit, the Permittee waives any objection to the admissibility as evidence of any data generated pursuant to this Permit.

I.F. SIGNATORY REQUIREMENT

- * The Permittee shall sign and certify all applications, reports, or information submitted to or requested by the Secretary or required by this Permit, in accordance with, and using the certification language specified in 20.4.1.900 NMAC, incorporating 40 CFR §§270.11 and 270.30(k).

I.G. REPORTS, NOTIFICATIONS, AND SUBMISSIONS TO THE NMED

The Permittee shall submit by certified mail or hand delivery all reports, notifications, or other submissions which are required by this Permit to be sent or given to the NMED. The submissions should be sent by certified mail or hand delivered to:

Manager
Permits Management Program
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building 1
Santa Fe, New Mexico 87505-6303

Telephone Number: (505) 428-2500
Facsimile Number: (505) 428-2567

I.H. CONFIDENTIAL INFORMATION

The Permittee may claim confidentiality for any information required to be submitted by this Permit, to the extent authorized by the HWA §74-4-4.3(D) and 20.4.1.900 NMAC, incorporating 40 CFR §270.12.

I.I. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The Permittee shall maintain at the Facility, until completion of closure as specified in Permit Module K, the following documents and all amendments, revisions and modifications to these documents:

1. *Waste Analysis Plan*, contained in Attachment D, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.13(b) and this Permit.
2. *Inspection Plan*, contained in Attachment F, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.15(b)(2) and this Permit.
3. *Personnel Training* documents and records, contained in Attachment J, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.16(d) and this Permit.
4. *Contingency Plan*, contained in Attachment H, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.53(a) and this Permit, and including summary reports and details of all incidents that require implementation of the Contingency Plan, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.56(j).
5. Operating Record, contained in Attachment I, *Record Keeping*, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.73 and this Permit.
6. *Closure Plan*, contained in Attachment K, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.112(a) and this Permit.
7. Annually adjusted closure cost estimate as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.142(d), and this Permit.
8. The names, addresses, and phone numbers of the Emergency Coordinator (EC) and all persons designated as alternate EC, as required by Permit Condition II.J.4, and shown in Table H-1 of Permit Attachment H, *Contingency Plan*.
9. A list of all equipment, as contained in the Permit Attachment H, Table H-2, *Emergency Equipment List*, which must be regulated as required by 20.4.1.500 NMAC, incorporating 40 CFR Part 264, Subpart CC.
10. A signed duplicate copy of the liability policy required under Permit Condition II.Q.1., as required by Permit Condition II.Q.2.

MODULE II

GENERAL FACILITY CONDITIONS

MODULE HIGHLIGHTS:

This Module sets forth the standards that every owner/operator of a Container Storage Facility (CSF) is required to meet, in order to manage and store hazardous waste at the CSF in a manner protective of human health and the environment.

II. A. DESIGN AND OPERATION OF THE FACILITY

The Permittee shall maintain and operate the CSF to minimize the possibility of a fire, explosion, or any unplanned, sudden or nonsudden release of hazardous waste or constituents to air, soil, ground water, or surface water which could threaten human health or the environment, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.31.

II.B. REQUIRED NOTICES

II.B.1. Hazardous Waste Imports

The Permittee shall not accept wastes from a foreign source without prior authorization from the U. S. Environmental Protection Agency (EPA). The Permittee shall include the authorization in the CSF operating record, and send a copy of the authorization document to the New Mexico Environment Department.

II.B.2. Hazardous Waste From Off-site Sources

The Permittee shall receive off-site hazardous waste in compliance with the requirements and conditions specified in this Permit. The Permittee shall only receive the hazardous waste listed in Permit Attachment B, *Authorized Wastes*, for management and storage at the CSF.

II.C. GENERAL WASTE ANALYSIS

II.C.1. Waste Analysis Plan

The Permittee shall not manage or store hazardous wastes which fail to meet the characterization requirements of Permit Conditions II.C.1. through II.C.4, and 20.4.1.500 NMAC, incorporating 40 CFR §264.13. The Permittee shall ensure that documentation from each generator demonstrating that all hazardous waste destined for management or storage at the CSF from the generator complies with the waste characterization and analysis procedures described in Permit Attachment D, *Waste Analysis Plan*. Knowledge of process shall not be used in lieu of detailed chemical analysis. The Permittee shall inform each generator in writing that the generator must comply with the waste analysis requirements

specified in Permit Attachment D, and as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.13(c).

II.C.2. Sampling and Analysis

The Permittee shall use the methods for statistically selecting waste containers for visual examination and volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and total metals analysis, establishing the background and upper confidence limits for hazardous waste sampling by applying the statistical methods contained in 20.4.1.500 NMAC, incorporating 40 CFR §264 Appendix IV, *Cochran's Approximation to the Behrens-Fisher Student's t-test*.

II.C.3. Waste Profile Sheets

Prior to accepting hazardous waste for management or storage at the CSF, the generator of the off-site hazardous waste shall provide the Permittee Waste Profile Sheets that contain all the chemical composition of the hazardous waste, their percentages, and waste constituents required by this Permit. The Permittee shall review the generator supplied information and chemical analytical data to check for completeness and accuracy, to ensure that the waste meets the criteria of the waste acceptance plan and the procedures described in Permit Attachment D [20.4.1.500 NMAC, incorporating 40 CFR §264.13(a)(2) and §264.13 (b)(5)].

II.C.4. Quality Assurance Objectives

The Permittee shall follow the waste analysis procedures required by 20.4.1.500 NMAC, incorporating 40 CFR §264.13. The Permittee shall verify the analysis of each waste stream annually as part of its quality assurance program, as required by *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*, EPA Publication SW-846, and the procedures presented in Permit Attachment D, *Waste Analysis Plan*.

II.D. SECURITY

In order to prevent the unknowing entry and to minimize the possibility of unauthorized entry of persons into the CSF, the Permittee shall comply with the security provisions and procedures described in Permit Attachment E, *Security Plan*, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.14.

II.D.1. Barriers and Means to Control Entry

The Permittee shall maintain an artificial barrier (i.e. a fence in good repair) around the CSF and a means to control entry into the active portion of the CSF, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.14(b)(2), and as specified in Permit Attachment E, *Security Plan*.

The six foot high light gauge fabric, 2-inch mesh chain link fence shall be maintained around the CSF to prevent unauthorized personnel and livestock from gaining access to the CSF warehouse and its surrounding land. Access to the CSF shall be only through the gates described in the *Security Plan* contained in Permit Attachment E.

II.D.2. Warning Signs

Warning signs in English and Spanish, for example: **DANGER, NO UNAUTHORIZED PERSONNEL, KEEP OUT,** and **PELIGRO, NO PERMITIDA LA ENTRADA SIN AUTORIZACION**, shall be posted at all the gates and around the fence, and at other locations of the CSF in sufficient numbers to be visible from all angles of approach to the CSF. These bilingual signs must be legible from a distance of at least 25 feet from any approach to the perimeter fence, in compliance with the standards contained in 20.4.1.500 NMAC, incorporating 40 CFR §264.14(c).

II.E. GENERAL INSPECTION REQUIREMENTS

II.E.1. Inspection Schedule

The Permittee shall implement the Inspection Plan contained in Permit Attachment F, to detect any container and equipment malfunctions and deteriorations, operator errors, and discharges, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.15(a).

II.E.2. Inspection Frequency

The Permittee shall inspect monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment at the frequency specified in the weekly and monthly inspection schedules contained in Permit Attachment F, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.15(b).

II.E.3. Remediation Of Equipment/Structures

The Permittee shall remedy any deterioration or malfunction of equipment or structures which an inspection reveals, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.15(c).

II.E.4. Inspection Log and Checklist

The Permittee shall use the inspection checklists contained in the Rinchem General Inspection Sheets, Permit Attachment F. The Permittee shall record the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.15(d).

II.E.5. Inspection Records

The Permittee shall maintain inspection checklists in the CSF operating record for at least three (3) years from the date of inspection, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.15(d).

II.F. PERSONNEL TRAINING

The Permittee shall conduct personnel training following the procedures described in Permit Attachment J, *Personnel Training*, and the following Permit Conditions, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.16.

II.F.1. Personnel Training Requirements

The Permittee shall train all persons involved in the management and storage of hazardous waste in procedures relevant to the positions in which they are employed, as described in Permit Attachment J, *Personnel Training*, and as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.16.

II.F.2. Personnel Training Content

The personnel training program shall include the courses and procedures described in Permit Attachment J, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.16(a-c).

II.F.3. Personnel Training Records

The Permittee shall maintain training documents and records, and keep training records on current personnel at the CSF Office for at least three years from the date the employee last worked at the Facility, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.16(d) and (e).

II.G. SPECIAL PROVISIONS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTES

The Permittee shall follow the procedures for managing and storing ignitable, reactive, and incompatible wastes set forth in Permit Attachment C, *Design and Operation of the Container Storage Facility*, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.17.

H. LOCATION STANDARDS

Since the CSF is located in Bernalillo County of New Mexico listed in Appendix VI of 40 CFR, the Permittee must demonstrate consideration of seismic and floodplain standards, as required by

20.4.1.500 NMAC, incorporating 40 CFR §264.18, and as specified in Permit Attachment A, *General Facility Description*.

II.I. PREPAREDNESS AND PREVENTION

II.I.1. Required Equipment

At a minimum, the Permittee shall maintain at the CSF the equipment set forth in Permit Attachment H, Table H-2, *Emergency Equipment List*, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.32.

II.I.2. Testing and Maintenance of Equipment

The Permittee shall test and maintain the equipment specified in Permit Attachment H, as necessary, to assure its proper operation in time of emergency, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.33.

II.I.3. Access to Communications or Alarm System

The Permittee shall maintain access to the communications or alarm system as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.34.

II.I.4. Required Aisle Space

At a minimum, the Permittee shall maintain enough aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of CSF operation, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.35, and as described in Permit Attachment C, *Design and Operation of the Container Storage Facility*.

II.I.5. Arrangements with Local Authorities

The Permittee shall maintain coordination agreements with the City of Albuquerque and Bernalillo County Fire Departments, and the St. Joseph's Northeast Hospital as described in Permit Attachment H, *Contingency Plan*. These arrangements shall be either Memoranda of Understanding (MOU) or Mutual Aid Agreements (MAA) between the Permittee and the off-site cooperating agencies, and shall include the elements required by 20.4.1.500 NMAC, incorporating 40 CFR §264.37(a). Copies and descriptions of these MOUs and agreements shall be maintained at the Facility office in the operating record as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.37(b)).

II.J. CONTINGENCY PLAN

II.J.1. Implementation of Plan

The Permittee shall immediately implement the Contingency Plan contained in Permit Attachment H, whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.51(b).

II.J.2. Copies of the Plan

The Permittee shall maintain copies of the Contingency Plan and all revisions and amendments to the Plan at the CSF, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.53. The Permittee shall provide copies of the current Contingency Plan and all revisions to the Plan to the Secretary and all entities with which the Permittee has emergency MOUs or MAAs, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.53.

II.J.3. Amendments to Plan

The Permittee shall review and immediately amend, if necessary, the Contingency Plan, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.54.

II.J.4. Emergency Coordinator

An Emergency Coordinator (EC) and an alternate EC, as specified in Permit Attachment H, shall be available at all times in case of an emergency. The Emergency Coordinator or alternate EC shall be thoroughly familiar with the Contingency Plan and shall have the authority to commit the resources needed to implement the Contingency Plan, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.55. In the event of an imminent or actual emergency, the EC shall activate the internal emergency alarms, notify the appropriate State or local agencies with designated response roles, and implement the other procedures, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.56, and as described in Permit Attachment H.

II.K. MANIFEST SYSTEM

The Permittee shall comply with the manifest requirements of 20.4.1.500 NMAC, incorporating 40 CFR §264.71, §264.72, and §264.76. The Permittee shall not accept for management or storage any hazardous waste from an off-site source without the accompanying manifest.

II.L. RECORD KEEPING AND REPORTING

In addition to the record keeping and reporting requirements specified elsewhere in this Permit and 20.4.1.500 NMAC, incorporating 40 CFR §264.73(a), the Permittee shall comply with the following conditions:

II.L.1. Operating Record

The Permittee shall maintain a written operating record for each hazardous waste at the CSF for at least three (3) years from the date of report, sampling, measurement, or certification, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.73(a), and §270.30(j)(2). The Permittee shall maintain the operating record until closure of the CSF.

II.L.2. Biennial Report

The Permittee shall comply with the biennial reporting requirements of 20.4.1.500 NMAC, incorporating 40 CFR §264.75.

II.L.3. Personnel and Telephone Number Changes

The Permittee shall inform the Secretary in writing of changes in its management personnel and telephone numbers within fifteen (15) calendar days of the changes.

II.M. GENERAL CLOSURE REQUIREMENTS

II.M.1. Performance Standard

The Permittee shall close the CSF following the procedures described in the Closure Plan outlined in Permit Attachment K, as required 20.4.1.500 NMAC, incorporating 40 CFR §264.111.

II.M.2. Amendment to Closure Plan

The Permittee shall amend the Closure Plan, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.112(c), whenever necessary.

II.M.3. Notification of Closure

The Permittee shall notify the Secretary in writing at least forty-five (45) calendar days prior to the date on which he expects to begin closure of the CSF, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.112(d).

II.M.4. Time Allowed For Closure

Within ninety (90) calendar days after receiving the final volume of hazardous waste, the Permittee shall remove all hazardous waste from the CSF to a permitted treatment, storage or disposal Facility, and shall complete closure activities, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.113, following the schedule specified in the *Closure Plan* in Permit Attachment K, or as amended, as required by Permit Condition II.M.2.

II.M.5. Disposal or Decontamination of Equipment, Structures, and Soils

The Permittee shall decontaminate or dispose of all contaminated equipment, structures, and soils, as specified in the *Closure Plan*, Permit Attachment K, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.114.

II.M.6. Sampling for Metals, Organics and Halogenated Organics in the Container Storage Facility Building

The Permittee shall collect soil and ground water samples at and around the CSF for metals (i.e., Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Zinc), organics and halogenated organics in the CSF using EPA approved methods in the latest copy of SW-846, or an alternate method approved by the Secretary.

II.M.7. Certification of Closure

Within sixty (60) calendar days from the date of completion of partial closure of the CSF, and within sixty calendar (60) days of completion of final closure of the Unit, the Permittee shall provide to the Secretary a final closure report and written closure certification signed by an independent professional engineer registered in the State of New Mexico, that the CSF was closed as required by the procedures specified in the Closure Plan, Permit Attachment K, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.115.

II.N. COST ESTIMATE FOR FACILITY CLOSURE

II.N.1. Cost Estimates

The Permittee shall implement a financial instrument in the amount of the most recent closure cost estimate set forth in Permit Attachment M, *Financial Assurance*, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.142.

II.N.2. Adjustment of Cost Estimates

The Permittee shall adjust the Closure Cost estimate for inflation within sixty (60) calendar days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with 20.4.1.500 NMAC, incorporating 40 CFR §264.143, and Permit Condition II.P, or when using an approved State-required mechanism, upon such a date as required by the State, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.142(b).

II.N.3. Revision of Cost Estimates

The Permittee shall revise the Closure cost estimates within 30 days after NMED approves a request to modify the Closure Plan, if the change increases the cost of Closure, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.142(c).

II.N.4. Record Keeping

The Permittee shall maintain current Closure cost estimates in the Facility operating record, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.142(d).

II.O. FINANCIAL ASSURANCE FOR FACILITY CLOSURE

II.O.1. Submittal of Financial Assurance Documentation

The signed duplicate original of the closure financial assurance instrument required to be submitted to the Secretary at least sixty (60) calendar days before receiving hazardous waste for management and storage at the CSF, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.143.

II.O.2. Changes to the Financial Assurance Instrument

The Permittee shall not change the financial assurance instrument without approval of the Secretary, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.143.

II.P. LIABILITY REQUIREMENTS

II.P.1. Liability Coverage Amounts

The Permittee shall have and maintain liability coverage for sudden and accidental occurrences in the amount of one million dollars (\$1,000,000) per occurrence, with an annual aggregate of at least two million dollars (\$2,000,000), exclusive of legal defense costs, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.147(a). The Permittee shall have and maintain liability coverage for nonsudden accidental occurrences in the amount of three million dollars (\$3,000,000) per occurrence, with an annual aggregate of at least six million dollars (\$6,000,000), exclusive of legal defense costs, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.147(b).

II.P.2. Submittal of Liability Documentation

The signed duplicate original of the liability policy required in compliance with 20.4.1.500 NMAC, incorporating 40 CFR §264.147, is contained in Permit Attachment M.

II.Q. DISCLOSURE

As required by the HWA §74-4-4.7, the Permittee filed a disclosure statement with the New Mexico Environment Department (NMED) with the information required by, and on a form developed by, the NMED in cooperation with the New Mexico Department of Public Safety (DPS), at the same time the Permittee submitted the application for a Permit to the Hazardous Waste Bureau (HWB). A copy of the letter from the DPS to the NMED regarding background investigation conducted on personnel of Rinchem Company, Inc., is included in Appendix A-1 of Permit Attachment A. If any information required to be included in the disclosure statement provided by the Permittee to

comply with the HWA, §74-4-4.7, changes, or if any information is added after filing the statement, the Permittee shall provide that information to the Secretary within 30 calendar days after the change or addition. Failure to provide such information in a timely manner may constitute the basis for the revocation of this Permit.

II.R. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS

Declaration of Bankruptcy by Financial Institution

The Permittee shall notify the Secretary by certified mail of the commencement of bankruptcy, and the name of any guarantor within ten calendar days after commencement of the proceeding, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.148(a).

II.S. ESTABLISHMENT OF OTHER FINANCIAL ASSURANCE OR LIABILITY COVERAGE

The Permittee shall establish other financial assurance or liability coverage within 60 days from the date the Trustee or institution issuing the surety bond, letter of credit, or insurance policy declares bankruptcy; otherwise the Permittee will be deemed to be without the required financial assurance, as specified by 20.4.1.500 NMAC, incorporating 40 CFR §264.148(b).

II.T. GROUND WATER MONITORING

The Permittee shall conduct quarterly ground water detection monitoring at the CSF, when it fails to achieve clean closure. The Permittee shall analyze the ground water samples for those parameters contained in 20 NMAC 4.1.200, incorporating 40 CFR §261, Appendix VIII, that have been detected in the ground water at the monitoring wells, or are expected to be in or derived from waste stored at the CSF, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.93(a).

II.U. ESTABLISHMENT OF A BASELINE

The Permittee shall conduct background soil sampling at the CSF in areas not impacted by waste management within 180 calendar days from the effective date of this Permit. The sampling locations must be approved by NMED. This sampling activity is necessary for the establishment of a baseline that shall be used for reference during closure activities described in Permit Attachment K, *Closure Plan*. The Permittee shall submit a copy of the background sample data to NMED. The results of this initial sampling event will assist the Permittee in characterizing the soil at the CSF and its proximity, and shall be used for reference during closure of the CSF.

MODULE III

STORAGE OF HAZARDOUS WASTE IN CONTAINERS

III.A. MODULE HIGHLIGHTS

This Module contains the regulatory requirements for Rinchem Company, Inc., (**the Permittee**) to manage and store the hazardous wastes at the Container Storage Facility (CSF). The Facility is authorized to manage and store at the CSF only those hazardous wastes listed in Permit Attachment B, *Authorized Wastes*). Specific Facility and process information for the management, storage and transfer of hazardous waste, and a description of the CSF are provided in Permit Attachments A, and C. The location of the CSF is shown in Permit Attachment C, Figure C-1, *Plan View of the Container Storage Facility*. The photographs following Figure C-1, labeled Rooms A through F show the interior of each room at the Facility.

III.A.1. Waste Handling Building

The Permittee shall manage and store hazardous waste in the CSF building as specified in Permit Attachment C subject to the following conditions:

III.A.1.a. Storage Containers

The Permittee shall manage and store hazardous waste in the containers specified by Permit Condition III.C.1. of this Permit Module.

III.A.1.b. Storage Locations and Quantities

The Permittee shall manage and store hazardous waste containers at the CSF as specified in Table III.B.1. The Permittee shall manage and store quantities of hazardous waste containers in these locations not to exceed the maximum capacities specified in Table III.B.1.

III.A.1.c. Storage on Concrete Floor

The Permittee shall manage and store hazardous waste containers unloaded from the trucks transporting waste containers from off-site generators to the CSF in individual storage areas, segregated by waste type and compatibility. Each storage area shall have a concrete floor that slopes towards the aisles to expose any spills quickly as described in Permit Attachment C, *Design and Operation of the Container Storage Unit*.

III.A.1.d. Storage Time Limit

The Permittee shall not store any hazardous waste in the CSF for more than one (1) year.

III.A.1.e. Minimum Aisle Space

The Permittee shall maintain sufficient aisle space between storage drums in the storage rooms to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment and decontamination equipment to any area within the CSF as described in Permit Attachment C, and as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.35.

III.B. PERMITTED AND PROHIBITED WASTE IDENTIFICATION

III.B.1. Permitted Waste

The Permittee shall manage and store for subsequent transfer to a permitted treatment, storage, or disposal facility, only the hazardous wastes listed in Permit Attachment B, *Authorized Wastes*, subject to the terms of this Permit.

III.B.2. Prohibited Waste

The Permittee is prohibited from managing and storing any hazardous waste that is not identified in Permit Condition III.B.1. of this Permit. The Permittee shall not store more than 55,000 gallons of the Hazardous Wastes Types in containers at the CSF at any one time. Table III.B.1. shows the maximum amounts of hazardous waste that the Permittee shall manage and store at the CSF subject to the terms of this Permit.

TABLE III.B.1.

Maximum Storage Capacities of Rinchem's Container Storage Facility

| TYPE OF STORAGE UNIT | EPA HAZARDOUS WASTE TYPE | AREA (Square Feet) | MAXIMUM VOLUME OF WASTES (Gallons) |
|----------------------|--------------------------|--------------------|------------------------------------|
| Room A | Inorganic Chemicals | 1250 | 15,840 |
| Room B | Organic Chemicals | 1250 | 15,840 |
| Room C | Organic Chemicals | 5000 | 79,860 |
| Room D | Organic Chemicals | 5000 | 73,900 |
| Room E | Organic Chemicals | 5500 | 81,800 |
| Room F | Inorganic Chemicals | 5500 | 81,800 |

III.C. CONDITION OF CONTAINERS

If a container holding hazardous waste is not in good condition (e.g., has severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from such a container to a container that is in good condition or otherwise manage the waste in compliance with the Conditions of this Permit, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.171.

III.C.1. Acceptable Storage Containers

The Permittee shall use containers that comply with the requirements of the U.S. Department of Transportation shipping container regulations (*49 CFR §173 – Shipper's -General Requirements for Shipment and Packaging*, and *49 CFR §178 - Specifications for Packaging*) for management and storage of hazardous waste at the CSF. The following is a description of the type of containers that the Permittee shall use at the CSF:

Standard 55-gallon (208-liter) drums - with a gross internal volume of 7.3 ft³ (0.21 m³), as well as 10 gallon/1.23 ft³ (0.04 m³), and 35 gallon/4.64 ft³ (0.13 m³) drums, as necessary.

III.D. COMPATIBILITY OF WASTE WITH CONTAINERS

The Permittee shall use containers made of, or lined with, materials which will not react with and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.172. The Permittee shall ensure compliance with this requirement by conducting pre-acceptance characterization of waste, as described in Permit Attachment D, *Waste Analysis Plan*, considering the precautions described under "*Preventive Measures*", in Permit Attachment C.

III.E. MANAGEMENT OF CONTAINERS

The Permittee shall keep all containers closed during storage, except when it is necessary to add or remove waste, and shall not open, handle, or store containers in a manner which may rupture the container or cause it to leak, as required by 20.4.1.500 NMAC, incorporating at 40 CFR §264.173.

III.F. SECONDARY CONTAINMENT SYSTEMS

The Permittee shall construct and maintain secondary containment systems for all containers in the CSF in accordance with the specifications required by 20.4.1.500 NMAC, incorporating 40 CFR §264.175, and the procedures described in Permit Attachment C, *Design and Operation of the Container Storage Unit*.

III.G. INSPECTION SCHEDULES AND PROCEDURES

The Permittee shall inspect the CSF for the condition of containers and secondary containment systems, safety equipment, and aisle space daily, quarterly, and annually, to detect leaking containers, deterioration of containers and the containment system caused by corrosion and other factors, in accordance with the Schedules contained in Permit Attachment F, *Appendix F-1, Inspection Matrix Sheets*, and as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.174.

III.H. RECORD KEEPING

The Permittee shall place the results of all waste analyses and any other documentation in the CSF operating record, as specified in (Module II) Permit Condition II.L., *Record Keeping and Reporting*, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.73(a).

III.I. CLOSURE

During closure of the CSF, the Permittee shall remove all hazardous waste and hazardous waste residues from the containment system in accordance with the procedures described in Permit Attachment F, *Closure Plan*, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.178. [Remaining containers, liners, bases and soils containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.178].

III.J. SPECIAL CONTAINER PROVISIONS FOR IGNITABLE OR REACTIVE WASTE

III.J.1. Location of Ignitable and Reactive Waste

The Permittee shall not locate containers holding ignitable or reactive hazardous waste within 15 meters (50 feet) of the Facility's property line as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.176.

III.J.2. Procedures to Prevent Ignition/Reaction

The Permittee shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste and follow the procedures specified in Permit Attachment C, as required by 20.4.1.500 NMAC, incorporating §264.17 and §264.176.

III.J.3. Storage of Hazardous Waste Containers

Containers of ignitable and reactive wastes shall be stacked no more than two high, in order to comply with the National Fire Protection Association's Flammable and Combustible Liquids Code.

III.K. SPECIAL CONTAINER PROVISIONS FOR INCOMPATIBLE WASTE

III.K.1. Storage of Incompatible Wastes

The Permittee shall not place incompatible wastes in the same containers, as set forth in Permit Attachment C, *Design and Operation of the Container Storage Facility*, and as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.177(a).

III.K.2. Management of Unwashed Containers

The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.177(b).

III.K.3. Separation of Hazardous Waste Containers

The Permittee shall separate containers of incompatible wastes as described in Permit Attachments C, and as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.177(c).

**PERMIT ATTACHMENT B
AUTHORIZED WASTES:
PART A PERMIT APPLICATION**

The following pages (i.e., PART A Permit Application, and Appendix B-1) contain the list of hazardous wastes that Rinchem Company, Inc., is authorized to accept for management and storage at the Container Storage Facility.

| | | |
|------------------------------|--|--|
| For EPA Regional Use Only |  United States Environmental Protection Agency Washington, DC 20460 <h2 style="text-align: center;">Hazardous Waste Permit Application Part A</h2> <p style="text-align: center;">(Read the Instructions before starting)</p> | |
| Date Received | | |
| Month Day Year | | |
| | | |

I. Installation's EPA ID Number (Mark 'X' in the appropriate box)

| | |
|---|---|
| <input type="checkbox"/> A. First Part A Submission | <input checked="" type="checkbox"/> B. Part A Amendment # 2 |
|---|---|

| | |
|---------------------------------|--|
| C. Installation's EPA ID Number | D. Secondary ID Number (If applicable) |
| N M D 0 0 2 2 0 8 6 2 7 | |

| |
|---------------------------------------|
| II. Name of Facility |
| R I N C H E M C O M P A N Y , I N C . |

III. Facility Location (Physical address not P.O. Box or Route Number)

| |
|---|
| A. Street |
| 6 1 3 3 E D I T H B O U L E V A R D N E |

| |
|--------------------|
| Street (Continued) |
| |

| | | |
|-----------------------|-------|-------------|
| City or Town | State | Zip Code |
| A L B U Q U E R Q U E | N M | 8 7 1 0 7 - |

| | |
|---------------------------|---------------------|
| County Code (If known) | County Name |
| | B E R N A L I L L O |

| | | |
|--------------|---|----------------------------|
| B. Land Type | C. Geographic Location | D. Facility Existence Date |
| (Enter code) | LATITUDE (Degrees, Minutes, & Seconds) LONGITUDE (Degrees, Minutes & Seconds) | Month Day Year |
| P | 3 5 0 8' 3 9 " 1 0 6 3 7' 4 3 " | 1 2 0 1 1 9 9 5 |

IV. Facility Mailing Address

| |
|--------------------|
| Street or P.O. Box |
| S A M E |

| | | |
|--------------|-------|----------|
| City or Town | State | Zip Code |
| | | - |

V. Facility Contact (Person to be contacted regarding waste activities at facility)

| | |
|-----------------------|-------------------------------------|
| Name (Last) | (First) |
| M O O R E | J A M E S |
| Job Title | Phone Number (Area Code and Number) |
| D I R . O F O P E R . | 5 0 5 - 3 4 5 - 3 6 5 5 |

VI. Facility Contact Address (See instructions)

| | |
|---|-----------------------|
| A. Contact Address Location Mailing Other | B. Street or P.O. Box |
| <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | |
| City or Town | State Zip Code |
| | |

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XI. Nature of Business (Provide a brief description)

See attached page

XII. Process Codes and Design Capacities

A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Thirteen lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. For other processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in item XIII.

B. PROCESS DESIGN CAPACITY - For each code entered in column A, enter the capacity of the process.

1. **AMOUNT** - Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action), enter the total amount of waste for that process.

2. **UNIT OF MEASURE** - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

C. PROCESS TOTAL NUMBER OF UNITS - Enter the total number of units used with the corresponding process code.

| PROCESS CODE | PROCESS | APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY |
|-------------------|--------------------------------|---|
| Disposal: | | |
| D79 | Underground Injection | Gallons; Liters; Gallons Per Day; or Liters Per Day |
| D80 | Landfill | Acre-feet or Hectare-meter |
| D81 | Land Treatment | Acres or Hectares |
| D82 | Ocean Disposal | Gallons Per Day or Liters Per Day |
| D83 | Surface Impoundment | Gallons or Liters |
| D99 | Other Disposal | Any Unit of Measure Listed Below |
| Storage: | | |
| S01 | Container (Barrel, Drum, Etc.) | Gallons or Liters |
| S02 | Tank | Gallons or Liters |
| S03 | Waste Pile | Cubic Yards or Cubic Meters |
| S04 | Surface Impoundment | Gallons or Liters |
| S05 | Drip Pad | Gallons or Liters |
| S06 | Containment Building-Storage | Cubic Yards or Cubic Meters |
| S99 | Other Storage | Any Unit of Measure Listed Below |
| Treatment: | | |
| T01 | Tank | Gallons Per Day or Liters Per Day |
| T02 | Surface Impoundment | Gallons Per Day or Liters Per Day |
| T03 | Inclinator | Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; or Btu's Per Hour |
| T04 | Other Treatment | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| T80 | Boller | Gallons or Liters |
| T81 | Cement Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| T82 | Lime Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| T83 | Aggregate Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| T84 | Phosphate Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| T85 | Coke Oven | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| T86 | Blast Furnace | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |

| PROCESS CODE | PROCESS | APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY |
|-----------------------------------|--|---|
| T87 | Smelting, Melting, Or Refining Furnace | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| T88 | Titanium Dioxide Chloride Process Oxidation Reactor | |
| T89 | Methane Reforming Furnace | |
| T90 | Pulping Liquor Recovery Furnace | |
| T91 | Combustion Device Used In The Recovery Of Sulfur Values From Spent Sulfuric Acid | |
| T92 | Halogen Acid Furnaces | |
| T93 | Other Industrial Furnaces Listed In 40 CFR §260.10 | |
| T94 | Containment Building-Treatment | Cubic Yards or Cubic Meters |
| <u>Miscellaneous (Subpart X):</u> | | |
| X01 | Open Burning/Open Detonation | Any Unit of Measure Listed Below |
| X02 | Mechanical Processing | Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; or Kilograms Per Hour |
| X03 | Thermal Unit | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| X04 | Geologic Repository | Cubic Yards or Cubic Meters |
| X99 | Other Subpart X | Any Unit of Measure Listed Below |

| UNIT OF MEASURE | UNIT OF MEASURE CODE | UNIT OF MEASURE | UNIT OF MEASURE CODE | UNIT OF MEASURE | UNIT OF MEASURE CODE |
|------------------|----------------------|----------------------|----------------------|-----------------|----------------------|
| Gallons | G | Short Tons Per Hour | D | Cubic Yards | Y |
| Gallons Per Hour | E | Metric Tons Per Hour | W | Cubic Meters | C |
| Gallons Per Day | U | Short Tons Per Day | N | Acres | B |
| Liters | L | Metric Tons Per Day | S | Acre-feet | A |
| Liters Per Hour | H | Pounds Per Hour | J | Hectares | O |
| Liters Per Day | V | Kilograms Per Hour | R | Hectare-meter | F |
| | | | | Btu's Per Hour | I |

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XII. Process Codes and Design Capabilities (Continued)

EXAMPLE FOR COMPLETING ITEM XII (Shown in line number X-1 below): A facility has a storage tank, which can hold 533,788 gallons.

| Line Number | A. Process Code (From list above) | B. PROCESS DESIGN CAPACITY | | C. Process Total Number Of Units | For Official Use Only |
|-------------|--------------------------------------|----------------------------|------------------------------------|----------------------------------|-----------------------|
| | | 1. Amount (Specify) | 2. Unit Of Measure (Enter code) | | |
| X 1 | S 0 2 | 5 3 3 7 8 8 | G | 0 0 1 | |
| 1 | S 0 1 | 5 5 0 0 0 | G | 0 0 1 | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 1 0 | | | | | |
| 1 1 | | | | | |
| 1 2 | | | | | |
| 1 3 | | | | | |

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in Item XIII.

XIII. Other Processes (Follow instructions from Item XII for D99, S99, T04 and X99 process codes)

| Line Number (Enter as in seg w/XII) | A. Process Code (From list above) | B. PROCESS DESIGN CAPACITY | | C. Process Total Number Of Units | D. Description Of Process |
|--|--------------------------------------|----------------------------|------------------------------------|----------------------------------|---------------------------|
| | | 1. Amount (Specify) | 2. Unit Of Measure (Enter code) | | |
| X 1 | T 0 4 | | | | In-situ Vitrification |
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |

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XIV. Description of Hazardous Wastes

A. EPA HAZARDOUS WASTE NUMBER - Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

| ENGLISH UNIT OF MEASURE | CODE | METRIC UNIT OF MEASURE | CODE |
|-------------------------|------|------------------------|------|
| PCOUNDS | P | KILOGRAMS | K |
| TONS | T | METRIC TONS | M |

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in item XII A on page 3 to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in item XII A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. Enter the first two as described above.
2. Enter "000" in the extreme right box of item XIV-D(1).
3. Enter in the space provided on page 7, item XIV-E, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form (D(2)).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.
3. Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM XIV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an Incinerator and disposal will be in a landfill.

| Line Number | A. EPA HAZARD WASTE NO. (Enter code) | B. ESTIMATED ANNUAL QUANTITY OF WASTE | C. UNIT OF MEASURE (Enter code) | D. PROCESS | |
|-------------|--------------------------------------|---------------------------------------|---------------------------------|--------------------------------|--|
| | | | | (1) PROCESS CODES (Enter code) | (2) PROCESS DESCRIPTION (If a code is not entered in D(1)) |
| 1 | K 0 5 4 | 900 | P | T 0 3 D 8 0 | |
| | D 0 0 2 | 100 | P | T 0 3 D 8 0 | |
| X 3 | D 0 0 1 | 100 | P | T 0 3 D 8 0 | |
| X 4 | D 0 0 2 | | | | Included With Above |

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Secondary ID Number (Enter from page 1)

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XIV. Description of Hazardous Wastes (Continued)

| Line Number | A. EPA HAZARDOUS WASTE NO. (Enter code) | B. ESTIMATED ANNUAL QUANTITY OF WASTE | C. UNIT OF MEASURE (Enter code) | D. PROCESSES | |
|-------------|---|---------------------------------------|---------------------------------|--------------------------------|--|
| | | | | (1) PROCESS CODES (Enter code) | (2) PROCESS DESCRIPTION (If a code is not entered in D(1)) |
| 1 | | | | | |
| 2 | | See attached list | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | | | | | |
| 26 | | | | | |
| 27 | | | | | |
| 28 | | | | | |
| 29 | | | | | |
| 30 | | | | | |
| 31 | | | | | |
| 32 | | | | | |
| 33 | | | | | |

EPA I.D. Number (Enter from page 1)

N M D 0 0 2 2 0 8 6 2 7

Secondary ID Number (Enter from page 1)

XV. Map

Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See Instructions for precise requirements.

XVI. Facility Drawing

All existing facilities must include a scale drawing of the facility (see instructions for more detail).

XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

XVIII. Certification(s)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner Signature

Date Signed

2-7-95

Name and Official Title (Type or print)

RCT Services Company William W. Moore, Proprietor

Owner Signature

Date Signed

Name and Official Title (Type or print)

Operator Signature

Date Signed

2-7-95

Name and Official Title (Type or print)

Rinchem Company, Inc. James H. Moore, Vice President

Operator Signature

Date Signed

Name and Official Title (Type or print)

XIX. Comments

e: Mail completed form to the appropriate EPA Regional or State Office. (Refer to Instructions for more information)

APPENDIX B-1 DESCRIPTION OF HAZARDOUS WASTES

| EPA Hazardous Waste Number | Estimated Annual Quantity of Waste | Unit of Measure | Process Codes |
|-------------------------------|--|-----------------------|------------------|
| D001 | 2200 | T | S01 |
| D002 | 500 | T | S01 |
| D003 | 500 | T | S01 |
| D004 | 25 | T | S01 |
| D005 | 25 | T | S01 |
| D006 | 25 | T | S01 |
| D007 | 25 | T | S01 |
| D008 | 25 | T | S01 |
| D009 | 25 | T | S01 |
| D010 | 25 | T | S01 |
| D011 | 25 | T | S01 |
| D012 | 25 | T | S01 |
| D013 | 25 | T | S01 |
| D014 | 25 | T | S01 |
| D015 | 25 | T | S01 |
| D016 | 25 | T | S01 |
| D017 | 25 | T | S01 |
| D018 | 25 | T | S01 |
| D019 | 25 | T | S01 |
| D020 | 25 | T | S01 |
| D021 | 25 | T | S01 |
| D022 | 25 | T | S01 |
| D023 | 25 | T | S01 |
| D024 | 25 | T | S01 |
| D025 | 25 | T | S01 |
| D026 | 25 | T | S01 |
| D027 | 25 | T | S01 |
| D028 | 25 | T | S01 |
| D029 | 25 | T | S01 |
| D030 | 25 | T | S01 |
| D031 | 25 | T | S01 |
| D032 | 25 | T | S01 |
| D033 | 25 | T | S01 |
| D034 | 25 | T | S01 |
| D035 | 25 | T | S01 |
| D036 | 25 | T | S01 |
| D037 | 25 | T | S01 |
| D038 | 25 | T | S01 |
| D039 | 25 | T | S01 |

| | | | |
|------|------|---|-----|
| D040 | 25 | T | S01 |
| D041 | 25 | T | S01 |
| D042 | 25 | T | S01 |
| D043 | 25 | T | S01 |
| | | | |
| F001 | 1100 | T | S01 |
| F002 | 1100 | T | S01 |
| F003 | 1100 | T | S01 |
| F004 | 500 | T | S01 |
| F005 | 500 | T | S01 |
| F006 | 25 | T | S01 |
| F007 | 25 | T | S01 |
| F008 | 25 | T | S01 |
| F009 | 25 | T | S01 |
| F010 | 25 | T | S01 |
| F011 | 25 | T | S01 |
| F012 | 25 | T | S01 |
| F013 | 25 | T | S01 |
| F014 | 25 | T | S01 |
| F015 | 25 | T | S01 |
| F016 | 25 | T | S01 |
| F017 | 25 | T | S01 |
| F018 | 25 | T | S01 |
| F019 | 25 | T | S01 |
| F020 | 25 | T | S01 |
| F021 | 25 | T | S01 |
| F022 | 25 | T | S01 |
| F023 | 25 | T | S01 |
| F024 | 25 | T | S01 |
| F025 | 25 | T | S01 |
| F026 | 25 | T | S01 |
| F027 | 25 | T | S01 |
| F028 | 25 | T | S01 |
| F029 | 25 | T | S01 |
| F030 | 25 | T | S01 |
| F031 | 25 | T | S01 |
| F032 | 25 | T | S01 |
| F033 | 25 | T | S01 |
| F034 | 25 | T | S01 |
| F035 | 25 | T | S01 |
| F036 | 25 | T | S01 |
| F037 | 25 | T | S01 |

| | | | |
|------|----|---|-----|
| F038 | 25 | T | S01 |
| F039 | 25 | T | S01 |
| K001 | 25 | T | S01 |
| K002 | 25 | T | S01 |
| K003 | 25 | T | S01 |
| K004 | 25 | T | S01 |
| K005 | 25 | T | S01 |
| K006 | 25 | T | S01 |
| K007 | 25 | T | S01 |
| K008 | 25 | T | S01 |
| K009 | 25 | T | S01 |
| K010 | 25 | T | S01 |
| K011 | 25 | T | S01 |
| K012 | 25 | T | S01 |
| K013 | 25 | T | S01 |
| K014 | 25 | T | S01 |
| K015 | 25 | T | S01 |
| K016 | 25 | T | S01 |
| K017 | 25 | T | S01 |
| K018 | 25 | T | S01 |
| K019 | 25 | T | S01 |
| K020 | 25 | T | S01 |
| K021 | 25 | T | S01 |
| K022 | 25 | T | S01 |
| K023 | 25 | T | S01 |
| K024 | 25 | T | S01 |
| K025 | 25 | T | S01 |
| K026 | 25 | T | S01 |
| K027 | 25 | T | S01 |
| K028 | 25 | T | S01 |
| K029 | 25 | T | S01 |
| K030 | 25 | T | S01 |
| K031 | 25 | T | S01 |
| K032 | 25 | T | S01 |
| K033 | 25 | T | S01 |
| K034 | 25 | T | S01 |
| K035 | 25 | T | S01 |
| K036 | 25 | T | S01 |
| K037 | 25 | T | S01 |
| K038 | 25 | T | S01 |
| K039 | 25 | T | S01 |
| K040 | 25 | T | S01 |
| K041 | 25 | T | S01 |

| | | | |
|------|----|---|-----|
| K042 | 25 | T | S01 |
| K043 | 25 | T | S01 |
| K044 | 25 | T | S01 |
| K045 | 25 | T | S01 |
| K046 | 25 | T | S01 |
| K047 | 25 | T | S01 |
| K048 | 25 | T | S01 |
| K049 | 25 | T | S01 |
| K050 | 25 | T | S01 |
| K051 | 25 | T | S01 |
| K052 | 25 | T | S01 |
| K053 | 25 | T | S01 |
| K054 | 25 | T | S01 |
| K055 | 25 | T | S01 |
| K056 | 25 | T | S01 |
| K057 | 25 | T | S01 |
| K058 | 25 | T | S01 |
| K059 | 25 | T | S01 |
| K060 | 25 | T | S01 |
| K061 | 25 | T | S01 |
| K062 | 25 | T | S01 |
| K063 | 25 | T | S01 |
| K064 | 25 | T | S01 |
| K065 | 25 | T | S01 |
| K066 | 25 | T | S01 |
| K067 | 25 | T | S01 |
| K068 | 25 | T | S01 |
| K069 | 25 | T | S01 |
| K070 | 25 | T | S01 |
| K071 | 25 | T | S01 |
| K072 | 25 | T | S01 |
| K073 | 25 | T | S01 |
| K074 | 25 | T | S01 |
| K075 | 25 | T | S01 |
| K076 | 25 | T | S01 |
| K077 | 25 | T | S01 |
| K078 | 25 | T | S01 |
| K079 | 25 | T | S01 |
| K080 | 25 | T | S01 |
| K081 | 25 | T | S01 |
| K082 | 25 | T | S01 |
| K083 | 25 | T | S01 |
| K084 | 25 | T | S01 |
| K085 | 25 | T | S01 |
| K086 | 25 | T | S01 |

| | | | |
|------|----|---|-----|
| K087 | 25 | T | S01 |
| K088 | 25 | T | S01 |
| K089 | 25 | T | S01 |
| K090 | 25 | T | S01 |
| K091 | 25 | T | S01 |
| K092 | 25 | T | S01 |
| K093 | 25 | T | S01 |
| K094 | 25 | T | S01 |
| K095 | 25 | T | S01 |
| K096 | 25 | T | S01 |
| K097 | 25 | T | S01 |
| K098 | 25 | T | S01 |
| K099 | 25 | T | S01 |
| K100 | 25 | T | S01 |
| K101 | 25 | T | S01 |
| K102 | 25 | T | S01 |
| K103 | 25 | T | S01 |
| K104 | 25 | T | S01 |
| K105 | 25 | T | S01 |
| K106 | 25 | T | S01 |
| K107 | 25 | T | S01 |
| K108 | 25 | T | S01 |
| K109 | 25 | T | S01 |
| K110 | 25 | T | S01 |
| K111 | 25 | T | S01 |
| K112 | 25 | T | S01 |
| K113 | 25 | T | S01 |
| K114 | 25 | T | S01 |
| K115 | 25 | T | S01 |
| K116 | 25 | T | S01 |
| K117 | 25 | T | S01 |
| K118 | 25 | T | S01 |
| K119 | 25 | T | S01 |
| K120 | 25 | T | S01 |
| K121 | 25 | T | S01 |
| K122 | 25 | T | S01 |
| K123 | 25 | T | S01 |
| K124 | 25 | T | S01 |
| K125 | 25 | T | S01 |
| K126 | 25 | T | S01 |
| K127 | 25 | T | S01 |
| K128 | 25 | T | S01 |
| K129 | 25 | T | S01 |
| K130 | 25 | T | S01 |
| K131 | 25 | T | S01 |

| | | | |
|------|----|---|-----|
| K132 | 25 | T | S01 |
| K133 | 25 | T | S01 |
| K134 | 25 | T | S01 |
| K135 | 25 | T | S01 |
| K136 | 25 | T | S01 |
| | | | |
| P001 | 2 | T | S01 |
| P002 | 2 | T | S01 |
| P003 | 2 | T | S01 |
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PERMIT ATTACHMENT D WASTE ANALYSIS PLAN

Introduction

The following information on Waste Analysis Plan was provided to the New Mexico Environment Department by Rinchem Company Inc., (**Rinchem**) in accordance with the requirements of the New Mexico Hazardous Waste Management Regulations 20.4.1.500 NMAC, incorporating 40 CFR §264.13, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR §270.14(b)(2-3).

This Waste Analysis Plan (WAP) provides information about how Rinchem plans to accept, manage, and store hazardous wastes at their Albuquerque Container Storage Facility (**the Facility**) in order to meet the requirements of New Mexico Hazardous Waste Management Regulations 20.4.1NMAC, which incorporate by reference 40 CFR Parts 260 through 270. The WAP shall be included in the operating record that Rinchem shall keep on-site in the administration office. The waste stream that Rinchem shall be accepting for storage and subsequent transfer to a disposal facility are listed in Appendix B-1, Permit Attachment B, *Authorized Wastes*.

The procedures in the current WAP pertain to wastes that Rinchem will accept from off-site sources within the United States. Rinchem shall notify the Secretary in writing at least four weeks in advance of the date the first shipment of hazardous waste from a new waste stream is expected to arrive at the Facility. An example of the form to be used for waste acceptance is in Appendix D-1 (*Waste Profile Sheet*) of this Attachment.

Rinchem shall obtain a Permit from the EPA before it can accept hazardous waste from a foreign source.

Waste Characterization

In order to safely manage and store hazardous wastes Rinchem shall correctly characterize each hazardous waste stream.

Rinchem shall use the following four methods to characterize the hazardous waste they accept for management and storage before subsequent transfer to a permitted waste disposal facility:

- 1) Detailed Chemical Analysis
- 2) Acceptable Knowledge of Process (KOP) and published information

- 3) Hazardous Materials Categorization (HazCat) procedures
- 4) Chemical Fingerprint Checks

Knowledge of process (KOP) is the knowledge that a generator has about the waste, such as the chemical composition and content of the waste and the process that produced the waste. This knowledge helps with the determination of the waste characterization and is sufficient to determine both the hazards associated with management and storage and the requirements and restrictions for disposal. Existing published or documented data such as Material Safety Data Sheets (MSDS) on the hazardous waste or waste produced from similar processes can also be used. An example of the form used by Rinchem follows.

Rinchem shall submit the waste stream profile to a qualified laboratory with proper QA/QC procedures in place to perform a detailed chemical analysis of a sample of the waste stream when KOP is not adequate for determination of the safe management and storage procedures for the hazardous waste. The sample shall be sent to the lab together with a chain of custody form. The containers and preservatives used for the sample shall be specified by the lab doing the analysis. Testing parameters shall be chosen based on knowledge of the process from which the waste was produced and the information that the analysis yields about the waste, for example, BTU values, flashpoint, etc. The test methods that shall be used shall be those described in the most current version of EPA's publication titled "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846" or comparable methods.

Hazard categorization (HazCat) procedures - the processes and tests described in "HazCat, Chemical Identification System" to identify unknowns (Turkington, 1988, or most current), or a comparable method shall be followed to help characterize solid and liquid wastes that cannot be positively identified by the generator or from labeling information. Rinchem's HazCat system has over a hundred tests which allow them to identify the hazardous characteristics of the waste material. The properties that shall be tested for include:

- flammability levels
- oxidizer characteristics
- corrosive characteristics
- reactivity
- cyanides

- halides
- PCB present
- pesticides
- herbicides

Rinchem shall select specific parameters using Knowledge of Process information from the generator or any other applicable information about the characteristics of the waste. A chemical fingerprint check shall be performed on each incoming waste stream excluding labpacks and highly reactive wastes, to verify that the characteristics of the waste stream shall be consistent with the information provided by the generator and with the parameters listed on the profile for that waste stream. Fingerprint procedures shall be conducted according to published methods such as Turkington, 1988, or equivalent. The fingerprint parameters that may be tested or observed include:

- Physical state,
- Physical description,
- pH,
- Color,
- Ignitability,
- Specific gravity,

The above parameters shall be selected not only for the fact that they shall indicate that the waste is actually what the generator claims that it is, but they shall provide sufficient information about the waste so that it can be properly stored in a safe manner.

Pre-acceptance of a Waste Stream

For each new hazardous waste stream that is a candidate for storage at the Rinchem Facility, the following procedures shall be followed prior to notifying a generator that a waste stream can be accepted at the Rinchem facility:

- 1) The generator shall provide pertinent chemical and physical data requested on the waste profile sheet. Appendix J-1 contains waste profile sheets which show the information contained in the form. The profile includes a certification that any samples of waste submitted as part of the waste acceptance process shall be representative of the waste stream of interest, and that the generator shall notify Rinchem of known changes in the waste stream.
- 2) The generator shall provide Rinchem pertinent chemical and physical data and certifications requested to satisfy the land disposal restrictions (LDR) requirements specified under 20.4.1.800 NMAC, incorporating 40 CFR 268.
- 3) The data on the waste profile shall be verified as necessary through HazCat, chemical fingerprint checks or detailed chemical analysis of a representative sample of the waste.
- 4) After comparing the data supplied by the generator with that obtained by verification and assuring that Rinchem's chemical analysis contains all the information which must be known to store and dispose of the waste in accordance with New Mexico Hazardous Waste Management Regulations 20.4.1.500 NMAC, incorporating 40 CFR §264 and 20.4.1.800 NMAC. Pursuant to §268, Rinchem shall determine the acceptability of the waste based on the requirements of the regulations and this Permit.

Physical Acceptance of Waste at the Facility

Except in the case of labpacks and highly reactive wastes, upon arrival of a waste shipment at the Facility, a determination shall be made to insure that the customer had sent what was profiled and accepted. First, a verification shall be made that a pre-acceptance inspection sheet (PAIS) has been filled out for the generator's shipment of waste. An example of what a PAIS might contain is attached herein as Appendix J-2 of this Attachment. Secondly, the manifest and LDR form shall be compared with the profile (which shall be kept in the facility office) to make sure that they match. Some of the items that shall be compared include the waste description and the U.S. Department of Transportation (DOT) shipping information. Next, a fingerprint analysis (discussed above), shall be performed, which shall provide reasonable assurance that the waste shipped from the generator agrees with the accompanying manifest. The results of the fingerprint testing of a given waste stream shall be compared to the values obtained from previous shipments of the waste stream and the waste profile sheet and shall be required to fall within an established tolerance limit.

The minimum number of containers that shall be sampled from each shipment of a waste stream shall be determined according to the cube root procedure, Method D 140-70 of the American Society for Testing and Materials (ASTM).

For a typical load, the cube root procedure and formula provide the following:

| NUMBER OF DRUMS RECEIVED | NUMBER OF DRUMS SAMPLED |
|--------------------------|-------------------------|
| 1 | 1 |
| 2-8 | 2 |
| 9-27 | 3 |
| 28-64 | 4 |
| 65-125 | 5 |

The hazardous waste drums to be sampled shall be chosen at random by the person taking the samples. The sampling shall take place in a well ventilated area of the Facility such as the dock.

One of the methods referred to in 20.4.1.200 NMAC, incorporating 40 CFR §261, Appendix I, or an equivalent procedure approved by the Secretary shall be used to obtain representative samples of the waste by employees wearing personal protective equipment (PPE). Typically, the employee's PPE shall include goggles or safety glasses, gloves and an apron or coveralls. Rinchem's Health and Safety Plan shall be followed.

The method of sampling that shall most frequently be used, unless the technology changes, shall be sampling of containerized liquid waste with a "Composite Liquid Waste Sampler (COLIWASA). The COLIWASA is an effective representative sampler for homogeneous and multilayer liquids. Disposable glass COLIWASAs shall be used except when sampling hydrofluoric acid and strong alkali solutions, when a teflon one shall be used. A separate COLIWASA shall be used to sample each container. Figure J-1 is a schematic diagram of a COLIWASA type sampler.

Some of the hazardous wastes received at the facility shall be labpacks of small quantity chemical wastes which can be categorized into several types:

- FIG. D-1

- Excess or residual reagent chemicals
- Off-specification or expired chemicals
- Relatively small quantities of chemical solutions or mixtures of known composition
- Laboratory solid waste material

In most cases, knowledge of process may be sufficient to determine both the hazards associated with the management and storage of labpack wastes and the requirements and restrictions for its disposal; therefore, analytical testing may not be conducted on these wastes. The cube root procedure mentioned above shall be used to determine the number of containers in each labpack waste stream that shall be inspected for conformity of the paperwork list with the container contents.

In the case of highly reactive wastes being shipped for treatment at other off-site treatment, storage, and disposal facilities, the inspection process may entail no more than inspecting the container for proper packaging and labeling in order to protect the employees.

Unacceptable Waste Shipments

The Hazardous Waste Coordinator or his Designee shall qualify a waste shipment as unacceptable when any of the following conditions exists:

- Failure of the generator to pre-qualify the waste stream or provide appropriate data;
- Waste shipments that contain components that Rinchem is prohibited from accepting for storage and disposal, such as radioactive and/or explosive wastes;
- Improper or inappropriate packaging, labeling, or manifesting;
- Characteristic quantity or composition discrepancy between the waste and the waste manifest or profile;
- Values for fingerprint analysis parameters that shall be out of the tolerance levels set by Rinchem; and
- Lack of generator credit approval.

The Hazardous Waste Coordinator (or Designee) must also classify the waste as unacceptable by Rinchem if it is significantly different in composition or volume from the information shown on the waste profile sheet, the pre-acceptance analytical data of the representative sample, or on the manifest. Containers shall be counted to determine any waste quantity discrepancies.

Wastes found to be in non-conformance shall be rejected on the spot or they may be reevaluated for possible acceptance by the Facility despite the variance. Rinchem's reevaluation procedure shall be designed to determine whether a waste material can be handled at the facility and whether the generator concurs with the characterization conducted by the Facility. The Hazardous Waste Coordinator shall evaluate the hazardous waste shipment brought to the Container Storage Facility using the following criteria:

- Rinchem Company Inc./Facility requirements
- discussions with the generator
- facility parameters for waste storage
- the need for additional supplemental analysis

If all of the above parameters, including supplemental chemical analytical data indicate that the waste can be accepted and the generator concurs, new manifests or profiles shall be created as necessary to ensure compliance. If a discrepancy cannot be resolved within 10 days of the hazardous waste shipment receipt, the waste shall be returned to the generator and the Secretary shall be notified in writing of the discrepancy and the attempts to reconcile it.

Waste Tracking and the Operating Record

Rinchem shall maintain a written record and a computerized system of all manifested wastes that enter the Facility, as required by 20.4.1.500 NMAC, incorporating 40 CFR §264.73(a). This operating log shall contain a listing of all manifested wastes being received and shipped, the location of waste within the Facility storage rooms, the quantity and description of the wastes, the name of the generator, and the final destination of the waste. The operating record shall also contain all waste profiles delivered to Rinchem, waste acceptance and QA/QC forms. Once a waste shipment has been analyzed and accepted, the containers in the shipment shall be appropriately marked/labeled so that they can be tracked within the Facility. The containers shall be moved to the appropriate storage area based on the hazard class and compatibility of the waste.

Analysis Review

The pre-acceptance evaluation of a hazardous waste stream shall be repeated when a generator notifies Rinchem that the process generating the waste has changed or if Rinchem has reason to suspect that the waste is not in conformance with available pre-acceptance documentation. In the case of a change in the process generating the waste, the generator must submit a new waste profile sheet and sample data. The waste stream shall also be re-analyzed by Rinchem if a waste shipment received at the Facility does not match the waste designated on the accompanying manifest or shipping paper.



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MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

December 2, 1997

Mr. James H. Moore Jr.
Director of Operations
Rinchem Company, Inc.
6133 Edith Boulevard N.E.
Albuquerque, New Mexico 87107

RE: REQUEST FOR SUPPLEMENTARY INFORMATION ON PERMIT RENEWAL APPLICATION
EPA ID NO. NMD002208627

Dear Mr. Moore:

The New Mexico Environment Department (NMED) Hazardous and Radioactive Materials Bureau (HRMB) RCRA Permits Management Program has completed review of the Rinchem Company Inc.'s (RCI's) response to HRMB's May 2, 1995 notice of deficiency on the Facility Permit renewal application.

The enclosed Attachment lists the required information necessary for NMED to declare the application technically adequate and to commence drafting the permit text. The information requested must be submitted to HRMB within thirty (30) calendar days from the date you receive this letter. Please present the required information in two hard copies and on a 3.5" diskette compatible with Word Perfect 5.2. Failure to submit the required information in this designated time may result in issuance of a Notice of Intent (NOI) to deny a Permit.

If you have any questions, please contact Cornelius Amindyas of my staff at (505) 827-1561.

Sincerely yours,

Robert S. (Stu) Dinwiddie, Ph.D., Manager
RCRA Permits Management Program
Hazardous and Radioactive Materials Bureau

Enclosure

cc: Benito Garcia, Chief, HRMB
David Neleigh, EPA Region VI
Cornelius Amindyas, HRMB

FILE: RCI Red 97
TRACK: RCI 12/2/97, RCI, HRMB/CA, RE, Red 97

ATTACHMENT A

REQUEST FOR SUPPLEMENTARY INFORMATION:

December 3, 1997

The New Mexico Environment Department (NMED) Hazardous and Radioactive Materials Bureau (HRMB) has completed review of Rinchem Company Inc.'s (RCI's) response to HRMB's May 2, 1995 notice of deficiency on the Facility Permit renewal application. After reviewing the subject response to the NOD, HRMB has determined that RCI must address the following issues satisfactorily before the application can be declared technically adequate, and a draft permit developed:

A) WASTE ANALYSIS PLAN as required by 20 NMAC 4.1.500 incorporating 40 CFR §264.13

1. Waste Analysis Plan, pages 2-7:

RINCHEM never mentions if chemical analyses (EPA SW-846 methods) will be performed in-house or in a contracted laboratory. Although quality assurance/quality control (QA/QC) procedures are mentioned on page 4, the details are not presented. RINCHEM must therefore present the QA/QC that will be applied during sample management at closure.

2. Waste Analysis Plan, page 4, paragraph 1:

RINCHEM mentions that the HAZCAT CHEMICAL IDENTIFICATION SYSTEM will be used to characterize unidentified wastes. What parameters will be tested by the HAZCAT procedures, and what is the rationale for using a specific parameter?

3. Waste Analysis Plan, Recordkeeping:

The New Mexico Hazardous Waste Management Regulations 20 NMAC 4.1.500 incorporating 40 CFR § 264.113(b)(1) state that the owner or operator must keep a written waste analysis plan which specifies the parameters for which each hazardous waste must be analyzed and the rationale for the selection of these parameters. This was not done in RINCHEM's permit application. Rinchem must fulfill this requirement, and indicate where a copy of the operating record, including the Waste Analysis Plan will be kept in accordance with the above requirement, and to comply with 20 NMAC 4.1.500 incorporating 40 CFR §264.73(b)(3).

4. Waste Analysis Plan, page 4, paragraph 3:

"The test methods that will be used are described in the most current version of EPA's "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846" or compatible methods."

How specific will the choice of analytical methods be? Will RINCHEM test for all potential hazardous constituents? RINCHEM must provide details on how it will choose the appropriate analyses to identify wastes it plans to manage, since this requirement was not addressed in the reapplication text dated February 10, 1995.

B) CLOSURE PLAN as required by 20 NMAC 4.1.500 incorporating 40 CFR §264.112 through §264.117.

RINCHEM must provide a comprehensive Closure Plan that contains information that describes how each hazardous waste management unit will be closed, including a description of the waste inventory, procedures for decontamination, groundwater monitoring, and removal of contaminated soil as required by 20 NMAC 4.1.500 incorporating 40 CFR §264.112(b)(1-5). In addition, the following information must be included in the subject plan:

1. Closure Plan, Page 50, paragraph 3:

"...a soil gas survey or the technology being used at the time to detect organic substances will be conducted. The survey will be performed in storage areas C and D, on the docks, in the sumps and any other areas where there is known to have been a spill of any organic solvent or waste."

- a) Since there is no sampling plan available to determine if this will be an adequate survey, RINCHEM must provide a detailed sampling and analysis plan for closure as per 20 NMAC 4.1.500 incorporating 40 CFR §264.112(b)(4) and (5).
- b) Provide a description of what detection equipment will be used, how halogenated organics will be detected, whether the sampling will be passive or extractive, and how many samples will be taken. Present the screening action levels, and how they will be chosen.
- c) Provide a map indicating closure sample locations. Describe the sample collection procedures.

2. Closure Plan, Page 50, Paragraph 4:

"In the rooms where corrosives have been stored, concrete corings will be done at several places in each storage area. A pH test will be conducted on each concrete sample and the soil beneath to determine if further investigation is warranted."

- a) Explain how pH will be determined in the concrete and soil, how many samples will be taken, and how RINCHEM plans to achieve clean closure. Include information on how the soil will be tested for organic vapors in this area as well.
- b) Provide information on the natural 'background' soil pH, and whether or not, RINCHEM plans to propose a screening action level for pH.
- c) Provide criteria that RINCHEM plans to use to determine if the soil is clean. The samples must be tested for possible contaminants in the corrosives, such as metals.

3. *Closure Plan, page 50, paragraph 5:*

"..in case the analysis described above reveals any areas of suspect contamination, concrete and soil will be excavated in the area of concern, analyzed and disposed of in the appropriate manner."

- a) As per 20 NMAC 4.1.500 incorporating 40 CFR § 264.112(b)(4). RINCHEM must provide a detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and the criteria for determining the extent of decontamination required to satisfy the closure performance standard contained in 20 NMAC 4.1.500 incorporating 40 CFR §264.112(b) (5).). There is no such plan provided in response to the NOD previously sent to RINCHEM by HRMB.
- b) Provide a detailed description of other activities necessary during the closure period, including, but not limited to, ground water monitoring, leachate collection, and run-on and run-off control, in compliance with of 20 NMAC 4.1.500 incorporating 40 CFR §264.112(b)(5). RINCHEM did not provide this information in its permit application.

4. *Closure Plan, pages 49-53:*

Quality assurance and quality control (QA/QC) procedures were never discussed for field sampling or screening. The QA/QC measures must be addressed in the complete sampling and analysis plan that RINCHEM is required to submit for its closure plan in the part B permit application. Include a complete site map of the facility with possible sampling locations marked on it.

5. RINCHEM must include in the permit application a sample copy of the waste profile sheet its customers fill out.

C) *Closure; Time Allowed for Closure:*

Provide information about the time needed for closure (from the commencement to completion), in accordance with the requirements contained in 20 NMAC 4.1.500 incorporating 40 CFR §264.113.

D) *Disposal or Decontamination of Equipment, Structures, and Soils:*

Provide information on how during partial and final closure periods contaminated equipment, structures, and soils will be disposed of or decontaminated, in order to fulfill the requirements of 20 NMAC 4.1.500 incorporating 40 CFR §264.114.

E) *Certification of Closure:*

Describe how RINCHEM will confirm through certification by a New Mexico registered independent Engineer, that the hazardous waste management units (at

RINCHEM) have been closed in accordance with the specifications contained in the approved Closure Plan, as required by 20 NMAC 4.1.500 incorporating 40 CFR §264.115. Provide a survey plat of the facility to the local zoning authority, in compliance with all applicable standards of 20 NMAC 4.1.500 incorporating 40 CFR §264.116.

F) *Post-Closure Care and Use of Property:*

Submit a Post-Closure Care Plan for the units comprising the facility, and information on subsequent use of the property in accordance with 20 NMAC 4.1.500 incorporating 40 CFR §264.117.

G) *Risk Analysis:*

Provide a Risk Analysis that includes, and considers the following issues:

1. Provide a description of the existing air quality, other sources of contamination and the potential cumulative impact on human health and the environment. Present an estimate of the individual excess lifetime cancer risk.
2. Present an outline of the potential for health risks caused by human exposure to the hazardous waste constituents managed by RINCHEM;
3. Submit an account of potential damage to domestic animals, wildlife, vegetation, and physical structures caused by exposure to hazardous waste constituents from the RINCHEM Facility. Discuss other exposure pathways such as prey consumption by carnivores, and water ingestion pathways;
4. Describe any sensitive receptors within a 2 kilometer radius, and an estimate of exposed individuals living and/or working on the RINCHEM premises, and in the surrounding metropolitan community;
5. Show calculations of the lifetime cancer risk as a function of downwind concentrations, unit risk value, and exposure duration;
6. Give a detailed network of receptor points to permit the estimation and identification of receptor points that are exposed to maximum contaminant concentrations; and
7. Provide a detailed estimation of the exposed population. The non-inhalation pathways (ingestion and dermal) must be addressed using appropriate pathway exposure models, and what measures will be taken to minimize release of hazardous waste to the environmental media.



GARY E. JOHNSON
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous & Radioactive Materials Bureau
2044 Galisteo
P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-1557
Fax (505) 827-1544



MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

April 24, 1996

Mr. James H. Moore Jr.
Director of Operations
Rinchem Company, Inc.
6133 Edith Boulevard N.E.
Albuquerque, New Mexico 87107

RE: **Technical Review Notice of Deficiency**
EPA ID NO. NMD002208627

Dear Mr. Moore:

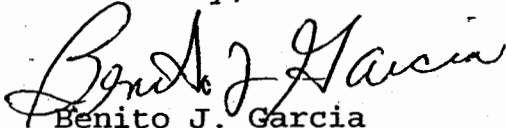
The Hazardous and Radioactive Materials Bureau (HRMB) of the New Mexico Environment Department (NMED) has completed a technical review of the Rinchem Company, Inc. (RCI), Resource Conservation and Recovery Act (RCRA) Hazardous Waste Part B Permit Application dated February 1995. HRMB has determined the Part B permit application to be technically deficient. Therefore, HRMB is requesting that RCI address the enclosed list of deficiencies (Attachments A and B). HRMB will declare the Part B permit application technically complete once RCI adequately addresses the enclosed information request.

Please submit the information requested by hardcopy and on a 3.5" diskette in WordPerfect 5.2, thereby expediting any further revisions that may be required. The information requested must be submitted to HRMB no later than 30 days from the date that you receive this notice. Failure to submit the required information within the specified time frame could result in the issuance of a Notice of Violation and/or a proposal to disapprove the Part B permit application.

Mr. Moore
April 24, 1996
Page 2

Should you have any questions regarding this matter or require a meeting with us, please contact Phillip Solano of my staff at (505) 827-1561.

Sincerely,



Benito J. Garcia
Chief, Hazardous and Radioactive Materials Bureau

Enclosures (2)

cc: Barbara Hoditschek, HRMB RCRA Permits
Susan Hoines, HRMB RCRA Technical Compliance
David Neleigh, Chief 6PD-N, EPA Region VI
RCI Red File '96

ATTACHMENT A

The following RCRA Permitting Program comments are referencing 20 NMAC 4.1 (rev. 11-1-95) 40 CFR Parts 264, 266, 267, 268 and 270, and Rinchem Company, Inc. (RCI) RCRA Hazardous Waste Part B Permit Application February, 1995.

270.14 Contents of Part B: General Requirements.

270.14(b)(11)(ii)(A) Seismic Standard.

RCI has provided information in their Part B Geologic Map (Fig. 1, pg. 42) addressing this requirement. HRMB is requesting the following additional information to be provided.

1. The location of the facility on RCI's Geologic Map should be identified with the wording "Rinchem Company, Inc."
2. RCI's Geologic Map is incomplete. The map should include a more detailed legend identifying the various symbols for geologic maps that are incorporated on this map (e.g. fault zones, strike and dip etc.).

270.14(b)(11)(iii) Federal Insurance Administration (FIA) flood map.

3. The location of the facility on RCI's Flood Map (Fig. 2, pg. 43), should be identified with the wording "Rinchem Company, Inc."

270.14(b)(19)(x) through (xii) Topographic Map.

RCI's Topographic Map (Fig. 4, pg. 67) is incomplete. The map shall clearly show the following.

4. The location of the facility on RCI's Topographic Map should be identified with the wording "Rinchem Company, Inc."
5. All of the required information requested by this citation is not included in RCI's Topographic Map. Some of this required information is included in RCI's facility drawing entitled "Rinchem Company, Inc. Facility" (Fig. 5, following page 68). If Figures 4 and 5 are to be used conjointly to meet this requirement, it should be indicated as such.
6. 270.14(b)(19)(iv) Surrounding land uses (residential, agricultural, recreational). Please provide this information on Fig. 4.
7. 270.14(b)(19)(viii) Access control (fences, gates). RCI facility gates are not shown. Please provide this information.
8. 270.14(b)(19)(x) Buildings; treatment, storage, or disposal operations; or other structure (recreation areas, runoff control systems, access and internal roads, storm, sanitary,

and process sewerage systems, loading and unloading areas, fire control facilities, etc.). Figs. 4 or 5 do not illustrate runoff control systems (e.g. Storage Area D drain line(s) and 500 gal. and 3,790 gal. concrete tanks); access and internal roads (e.g. access road from Edith Blvd.); storm, sanitary, and process sewerage systems; and fire control facilities. Please provide this information.

9. 270.14(b)(19)(xi) Barriers for drainage or flood control. Please provide this information (e.g. rainwater catchment ponds).
10. 270.14(d) Information requirements for solid waste management units.
 - a. 270.14(d)(1)(i) through (v) Required solid waste management unit information at a facility seeking a permit.

A RCRA Facility Assessment (RFA) was conducted in 1987 by the U.S. Environmental Protection Agency. As a result of the RFA the following solid waste management units (SWMU) were identified at RCI:

- 1) Storage Area for Inorganic Chemicals
- 2) Controlled Temperature Storage Area for Inorganic Chemicals
- 3) Storage Area for Organic Chemicals
- 4) Controlled Temperature Storage Area for Organic Chemicals
- 5) Truck Loading Dock
- 6) Spill Drain System
- 7) Spill Collection Tanks

Please provide the information requested in 270.14(d)(i) through (v) for each of these SWMU's.

- b. 270.14(d)(2) The owner or operator of any facility containing one or more solid waste management units must submit all available information pertaining to any release of hazardous wastes or hazardous constituents from such unit or units. Please provide this information.

270.15 Specific Part B information requirements for containers.

11. 270.15(a) A description of the containment system to demonstrate compliance with §264.175. Show at least the following:
 - a. 270.15(a)(1) Basic design parameters, dimensions, and materials of construction. Please provide this information.
 - b. 270.15(c) Sketches, drawings, or data demonstrating compliance with §264.176 (location of buffer zone and containers holding ignitable or reactive wastes ... , where applicable.

In a letter to NMED dated June 2, 1995, Item 12, RCI had stated: "However, in Areas C and F containers of reactives will not be placed closer than 50 feet to the property boundaries. There is a line in each of these areas indicating 50 feet from the property boundaries." HRMB is requesting that RCI provide this information by indicating the specified location of these lines in Storage Areas C and F on a scale drawing of the facility.

Part 270, Subpart D - Changes to Permit.

12. RCI has specified in their Part B permit application that they will make modifications to their Inspection Schedule (pg. 9), Contingency Plan (pg. 23), Emergency Coordinator List (pg. 25), and Facility Emergency Equipment List (pg. 27) outside of the permit modification procedures. HRMB has approved modification outside of the permit modification procedures to RCI's Emergency Coordinator List only. This approval was granted in July 1994 as a result of a permit modification request submitted by the permittee. All other changes to the facility's permit will follow the procedures as specified in Part 270, Subpart D - Changes to Permit. Please make these corrections to the language in the Part B permit application.

Part 264, Subpart I - Use and Management of Containers.

13. 264.171 Condition of containers: Please provide this information in narrative form addressing these requirements.

14. 264.172 Compatibility of waste with containers. Please provide this information in narrative form addressing these requirements.
15. 264.173(a) and (b) Management of containers. Please provide this information in narrative form addressing these requirements.

264.15 General Inspection Requirements.

16. 264.15(b)(4) requires that: "Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use."

RCI's Container Loading/Unloading Area is listed on their Weekly Inspection Sheet (pg. 10). This should be corrected to reflect "daily".

264.143 Financial assurance for closure.

17. 264.143(h) Use of a financial mechanism for multiple facilities. "Evidence of financial assurance submitted to the Regional Administrator must include a list showing, for each facility, the **EPA Identification Number**, name, address, and the amount of funds for closure assured by the mechanism."

RCI has included their unpermitted transfer facility Chaparral, Rt. 74, 511 Highway 213, Chaparral, N.M. 88201 on their Hazardous Waste Facility Certificate of Liability Insurance.

HRMB is requesting that RCI remove the Chaparral transfer facility from their policy. Chaparral does not have an assigned EPA Identification Number. Please submit a revised Hazardous Waste Facility Certificate of Liability Insurance policy to HRMB once this correction has been completed.

ATTACHMENT B

Technical Comments

The following comments are provided on the technical adequacy and completeness of the Waste Analysis Plan and the Closure Plan of RINCHEM'S "RCRA Hazardous Waste Part B Permit Application". The first category below gives a summary of the RCRA Technical Compliance Program (RCRA TCP) comments. The second category lists a specific RCRA TCP comments for particular items within the "RCRA Hazardous Waste Part B Permit Application".

SUMMARY:

RCRA TCP has determined that Closure Plan is incomplete. The closure plan mentions that a soil gas survey for organic vapors will be performed upon closure. The closure plan gives no information on how the soil gas vapor survey will be done. RCRA TCP can not determine if the soil gas vapor survey will be adequate. The Closure Plan also mentions that concrete and soil borings will be sampled for pH; RCRA TCP cannot determine if this will be adequate based on the amount of information given. In the event that RINCHEM does detect a release at closure, the closure plan is inadequate. It is missing any consideration for ground water monitoring, any decontamination plan for equipment, and any sampling plan/criteria for determining the extent of contamination.

The Waste Analysis Plan had insufficient information available for RCRA TCP to make a determination on the adequacy. Deficiencies include, but are not limited to: missing details on how RINCHEM will choose appropriate analyses from EPA's SW-846 manual to identify wastes, failure to denote the lab that will perform the chemical analyses, missing quality control and quality assurance procedures for sampling, missing rationale for choosing the group of parameters for the finger print analyses, and lack of details on how RINCHEM will use of the HAZCAT Chemical Identification System.

Specific items are listed below along with the appropriate regulatory citation.

SPECIFIC COMMENTS:

Reference to the RINCHEM text is located by plan, page, and paragraph, where applicable. The specific text is quoted and highlighted in bold. Following are the RCRA TCP comments.

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| <u>ITEM</u> | <u>COMMENT</u> |
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| 1 | <p>Closure Plan, Page 50, paragraph 3, "...a soil gas survey or the technology being used at the time to detect organic substances will be conducted. The survey will be performed in storage areas C and D, on the docks, in the sumps and any other areas where there is known to have been a spill of any organic solvent or waste." RCRA TCP Comment: There is no sampling plan available to determine if this will be an adequate survey. What detection equipment will be used? How will halogenated organics be detected? Will the sampling be passive or extractive? How many samples will be taken? The sampling map is missing. What are the screening action levels? RINCHEM must supply information on sample locations and collection procedures. <u>RINCHEM must provide a detailed sampling and analysis plan for closure as per 20 NMAC 4.1, Subpart V, 40 CFR § 264.112(b)(4) and (5).</u></p> |
| 2 | <p>Closure Plan, page 50, paragraph 4: "In the rooms where corrosives have been stored, concrete corings will be done at several places in each storage area. A pH test will be conducted on each concrete sample and the soil beneath to determine if further investigation is warranted." RCRA TCP Comment: There is no sampling plan available to determine if this will be adequate to determine clean closure. How will pH be determined in the concrete and soil? How many samples will be taken? There is no sampling map available. The soil should be tested for organic vapors in this area as well. Is there information on the natural 'background' soil pH? Will RINCHEM propose a screening action level for pH? RINCHEM needs some criteria to determine if the soil is clean. The samples should be tested for possible contaminants in the corrosives, such as metals. <u>RINCHEM must provide a detailed sampling and analysis plan for closure as per 20 NMAC 4.1, Subpart V, 40 CFR § 264.112(b)(4) and (5).</u></p> |
| 3 | <p>Closure Plan, page 50, paragraph 5: "...in case the analysis described above reveals any areas of suspect contamination, concrete and soil will be excavated in the area of concern, analyzed and disposed of in the appropriate manner." RCRA TCP Comment: <u>As per 20 NMAC 4.1, Subpart V, 40 CFR § 264.112(b)(4), RINCHEM must provide a detailed description of steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing</u></p> |

| <u>ITEM</u> | <u>COMMENT</u> |
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| 3 | surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standard (20 NMAC 4.1, Subpart V, 40 CFR § 264.112(b) (5).). There is no such plan provided in this application. Furthermore, <u>20 NMAC 4.1, Subpart V, 40 CFR § 264.112(b)(5) requires a detailed description of other activities necessary during the closure period, including, but not limited to, ground water monitoring, leachate collection, and run-on and run-off control. RINCHEM does not provide this information in its permit application.</u> |
| 4 | Closure Plan, pages 49-53: Quality assurance and quality control was never discussed for field sampling or screening. This issue must be addressed in the complete sampling and analysis plan that RINCHEM must submit for its closure plan in the part B permit application. |
| 5 | RINCHEM must provide a complete site map with possible sampling locations marked on it. |
| 6 | RINCHEM must include in the permit application a sample copy of the waste profile sheet its customers fill out. |
| 7 | Waste Analysis Plan, page 4, paragraph 3: "The test methods that will be used are described in the most current version of EPA's "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846" or compatible methods." RCRA TCP Comment: How specific will the choice of analytical method be? Will RINCHEM test for all potential hazardous constituents? RINCHEM must provide details on how it will choose the appropriate analyses to identify wastes. |
| 8. | Waste Analysis Plan, page 4, paragraph 1: RINCHEM mentions that the HAZCAT CHEMICAL IDENTIFICATION SYSTEM will be used to characterize unidentified wastes. What parameters will be tested by the HAZCAT procedures and what is the rationale for using a specific parameter? Is HAZCAT defensible in terms of waste identification? |

| <u>ITEM</u> | <u>COMMENT</u> |
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| 9. | Waste Analysis Plan, pages 2-7: RINCHEM never mentions if chemical analyses (EPA SW-846 methods) will be performed in house or in a contracted lab. No mention is made of quality control/quality assurance procedures. |
| 10. | Waste Analysis Plan, page 4, paragraph 2: Why were the six fingerprint parameters chosen? <u>20 NMAC 4.1, Subpart V, 40 CFR § 264.113(b)(1)</u> states that the owner or operator must keep a written waste analysis plan which specifies the parameters for which each hazardous waste must be analyzed and the rationale for the selection of these parameters. This was not done in RINCHEM's permit application. |



RINCHEM COMPANY, INC.

6133 EDITH BOULEVARD NE
ALBUQUERQUE, NM 87107
PHONE (505) 345-3655

February 7, 1995

Ms. Barbara Hoditschek
RCRA Permits Program Manager
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
525 Camino de los Marquez, Suite 4
P.O. Box 26110
Santa Fe, NM 85702

RE: REAPPLICATION FOR RINCHEM COMPANY, INC. RCRA PART B PERMIT,
NMD002208627-1

Dear Ms. Hoditschek:

Enclosed please find Parts A and B of our application for the renewal of our RCRA Part B Permit, # NMD002208627-1. Even though our current permit does not expire until 1998, we have chosen to reapply for a 10-year permit instead of submitting a major modification. We believe that this will simplify the review process and prevent reapplication and review of the permit again in three years. We also believe that the changes proposed allow the facility to actively serve the community in a safe and economical manner.

The main changes that are incorporated into the application are the following:

- the size of the hazardous waste management unit has increased
- the storage capacity has increased from 27,500 gallons to 55,000 gallons
- we will be accepting foreign waste
- the list of waste codes that can be stored at the facility has been expanded to include all RCRA regulated waste codes

Part B of the application is written so that it follows the order of the requirements of 40 CFR 270.14 through 270.27. However, the following sections were not addressed since they do not apply to our situation: 270.14(b)(6), (14), (16), (18), (20) and (21); 270.14(c); and 270.16 through 270.27.

WE DO IT WELL

BECAUSE WE CARE

We propose to implement the approach that your department took to changes we made to the emergency coordinator list which allows us to make changes to the list and send you an updated version without going through the formal permit modification process. This approach is taken with the contingency plan and the set of inspection schedules.

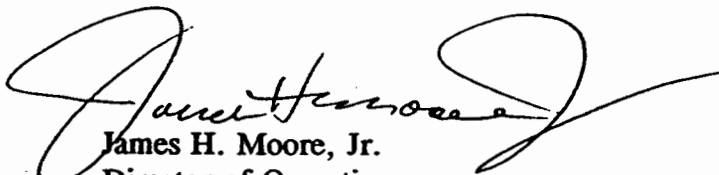
It is our understanding that Rinchem is able to provide the following services at the facility without them being specifically covered in our permit:

- elementary neutralization as defined in 40 CFR 264.1(g)(6)
- crushing of fluorescent bulbs and segregation of recyclable components to the extent that the actions comply with the requirements for recyclable materials in 40 CFR 261.6 or do not qualify as treatment as defined in 40 CFR 262.34
- shredding and compacting of solid RCRA and non-RCRA regulated waste for volume reduction prior to shipment for disposal to the extent that the physical, chemical or biological nature (or waste codes) of the waste do not change in accordance with the 40 CFR 260.10 definition of treatment
- bioremediation treatability studies in accordance with 40 CFR 261.4 (f)

If you have any questions, please do not hesitate to contact me at (505)345-3655.

We look forward to working with you and Phillip Solano to develop a permit that meets the regulatory requirements and allows Rinchem Company Inc. to conduct its business in a competitive manner.


Thanks for your time and consideration of this matter,



James H. Moore, Jr.
Director of Operations

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Enclosures

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| For EPA Regional Use Only |  United States Environmental Protection Agency Washington, DC 20460 <h2 style="margin: 10px 0;">Hazardous Waste Permit Application Part A</h2> <p>(Read the Instructions before starting)</p> | |
| Date Received Month Day Year <div style="display: flex; justify-content: space-between;"> <div style="width: 10%; border: 1px solid black; height: 15px;"></div> <div style="width: 10%; border: 1px solid black; height: 15px;"></div> <div style="width: 10%; border: 1px solid black; height: 15px;"></div> <div style="width: 10%; border: 1px solid black; height: 15px;"></div> <div style="width: 10%; border: 1px solid black; height: 15px;"></div> <div style="width: 10%; border: 1px solid black; height: 15px;"></div> <div style="width: 10%; border: 1px solid black; height: 15px;"></div> <div style="width: 10%; border: 1px solid black; height: 15px;"></div> </div> | | |
| I. Installation's EPA ID Number (Mark 'X' in the appropriate box) | | |
| <input type="checkbox"/> A. First Part A Submission | | <input checked="" type="checkbox"/> B. Part A Amendment # 2 |
| C. Installation's EPA ID Number | | D. Secondary ID Number (If applicable) |
| N M D 0 0 2 2 0 8 6 2 7 | | |
| II. Name of Facility | | |
| R I N C H E M C O M P A N Y , I N C . | | |
| III. Facility Location (Physical address not P.O. Box or Route Number) | | |
| A. Street | | |
| 6 1 3 3 E D I T H B O U L E V A R D N E | | |
| Street (Continued) | | |
| | | |
| City or Town | | State Zip Code |
| A L B U Q U E R Q U E | | N M 8 7 1 0 7 - |
| County Code (If known) | County Name | |
| | B E R N A L I L L O | |
| B. Land Type (Enter code) | C. Geographic Location LATITUDE (Degrees, Minutes, & Seconds) LONGITUDE (Degrees, Minutes & Seconds) | D. Facility Existence Date Month Day Year |
| P | 3 5 0 8 ' 3 9 " 1 0 6 3 7 ' 4 3 " | 1 2 0 1 1 9 9 5 |
| IV. Facility Mailing Address | | |
| Street or P.O. Box | | |
| S A M E | | |
| City or Town | | State Zip Code |
| | | - |
| V. Facility Contact (Person to be contacted regarding waste activities at facility) | | |
| Name (Last) | | (First) |
| M O O R E | | J A M E S |
| Job Title | | Phone Number (Area Code and Number) |
| D I R . O F O P E R . | | 5 0 5 - 3 4 5 - 3 6 5 5 |
| VI. Facility Contact Address (See instructions) | | |
| A. Contact Address Location Mailing Other | | B. Street or P.O. Box |
| <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | | |
| City or Town | | State Zip Code |
| | | - |

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

N M D 0 0 2 2 0 8 6 2 7

VII. Operator Information (See instructions)

Name of Operator

R I N C H E M C O M P A N Y , I N C .

Street or P.O. Box

6 1 3 3 E D I T H B O U L E V A R D N E

City or Town

A L B U Q U E R Q U E

State

ZIP Code

N M 8 7 1 0 7 -

Phone Number (Area Code and Number)

5 0 5 - 3 4 5 - 3 6 5 5

B. Operator Type

C. Change of Operator

Date Changed

Indicator

Month

Day

Year

P

Yes

No

X

VIII. Facility Owner (See instructions)

A. Name of Facility's Legal Owner

R C I S E R V I C E S C O M P A N Y

Street or P.O. Box

6 1 3 3 E D I T H B O U L E V A R D N E

City or Town

A L B U Q U E R Q U E

State

ZIP Code

N M 8 7 1 0 7 -

Phone Number (Area Code and Number)

5 0 5 - 3 4 5 - 3 6 5 5

B. Owner Type

C. Change of Owner

Date Changed

Indicator

Month

Day

Year

P

Yes

No

X

IX. SIC Codes (4-digit, in order of significance)

Primary

Secondary

5 1 6 9 (Description) Chemicals & Allied Products

4 2 2 5 (Description) General Warehousing & Storage

Secondary

Secondary

4 2 1 2 (Description) Local Trucking w/o Storage

(Description)

X. Other Environmental Permits (See instructions)

A. Permit Type
(Enter code)

B. Permit Number

C. Description

R

N M D 0 0 2 2 0 8 6 2 7 - 1

Hazardous Waste Facility Permit

EPA ID Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

N M D 0 0 2 2 0 8 6 2 7

XI: Nature of Business (Provide a brief description)

See attached page

XII: Process Codes and Design Capacities

A. PROCESS CODE Enter the code from the list of process codes below that best describes each process to be used at the facility. Thirteen lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. For other processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in Item XIII.

B. PROCESS DESIGN CAPACITY For each code entered in column A, enter the capacity of the process.

1. AMOUNT Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action), enter the total amount of waste for that process.

2. UNIT OF MEASURE For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

C. PROCESS TOTAL NUMBER OF UNITS Enter the total number of units used with the corresponding process code.

| PROCESS CODE | PROCESS | APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY | PROCESS CODE | PROCESS | APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY |
|-------------------|--------------------------------|---|-----------------------------------|--|---|
| <u>Disposal:</u> | | | | | |
| D79 | Underground Injection | Gallons; Liters; Gallons Per Day; or Liters Per Day | T87 | Smelting, Melting, Or Refining Furnace | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| D80 | Landfill | Acre-feet or Hectare-meter | T88 | Titanium Dioxide Chloride Process | |
| D81 | Land Treatment | Acres or Hectares | T89 | Methane Reforming Furnace | |
| D82 | Ocean Disposal | Gallons Per Day r Liters Per Day | T90 | Pulping Liquor Recovery Furnace | |
| D83 | Surface Impoundment | Gallons or Liters | T91 | Combustion Device Used In The Recovery Of Sulfur Values From Spent Sulfuric Acid | |
| D99 | Other Disposal | Any Unit of Measure Listed Below | T92 | Halogen Acid Furnaces | |
| <u>Storage:</u> | | | T93 | Other Industrial Furnaces Listed In 40 CFR §260.10 | |
| T1 | Container (Barrel, Drum, Etc.) | Gallons or Liters | T94 | Containment Building-Treatment | Cubic Yards or Cubic Meters |
| S02 | Tank | Gallons or Liters | <u>Miscellaneous (Subpart X):</u> | | |
| S03 | Waste Pile | Cubic Yards or Cubic Meters | X01 | Open Burning/Open Detonation | Any Unit of Measure Listed Below |
| S04 | Surface Impoundment | Gallons or Liters | X02 | Mechanical Processing | Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; or Kilograms Per Hour |
| S05 | Drip Pad | Gallons or Liters | X03 | Thermal Unit | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| S06 | Containment Building-Storage | Cubic Yards or Cubic Meters | | | |
| S99 | Other Storage | Any Unit of Measure Listed Below | X04 | Geologic Repository | Cubic Yards or Cubic Meters |
| <u>Treatment:</u> | | | X99 | Other Subpart X | Any Unit of Measure Listed Below |
| T01 | Tank | Gallons Per Day or Liters Per Day | | | |
| T02 | Surface Impoundment | Gallons Per Day or Liters Per Day | | | |
| T03 | Incinerator | Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; or Btu's Per Hour | | | |
| T04 | Other Treatment | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour | | | |
| T80 | Boller | Gallons or Liters | | | |
| T81 | Cement Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour | | | |
| T82 | Lime Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour | | | |
| T83 | Aggregate Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour | | | |
| T84 | Phosphate Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour | | | |
| T85 | Coke Oven | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour | | | |
| T86 | Blast Furnace | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour | | | |

| UNIT OF MEASURE | UNIT OF MEASURE CODE | UNIT OF MEASURE | UNIT OF MEASURE CODE | UNIT OF MEASURE | UNIT OF MEASURE CODE |
|------------------------|----------------------|----------------------------|----------------------|----------------------|----------------------|
| Gallons | G | Short Tons Per Hour | D | Cubic Yards | Y |
| Gallons Per Hour | E | Metric Tons Per Hour | W | Cubic Meters | C |
| Gallons Per Day | U | Short Tons Per Day | N | Acres | B |
| Liters | L | Metric Tons Per Day | S | Acre-feet | A |
| ers Per Hour | H | Pounds Per Hour | J | Hectares | Q |
| ers Per Day | V | Kilograms Per Hour | R | Hectare-meter | F |
| | | | | Btu's Per Hour | I |



COMPANY, INC.

6133 EDITH BOULEVARD NE
ALBUQUERQUE, NM 87107
PHONE (505) 345-3655

NATURE OF BUSINESS STATEMENT

Rinchem Company, Inc. will use the facility to store and treat hazardous wastes under RCRA's regulations. We will also transport waste from generator's sites to disposal facilities under RCRA and other regulations using the facility as a transfer station. Rinchem plans to store, treat and transport waste from foreign and domestic generators.

The wastes manifested to Rinchem Company, Inc. may be stored at the facility until economic quantity loads can be transported to disposal facilities. Some wastes will be bulked for transportation in tankers and other bulk containers.

The services Rinchem will provide its customers outside of the RCRA permit include elementary neutralization, crushing of fluorescent bulbs and segregation of recyclable components, shredding and compaction of solid RCRA and non-RCRA regulated waste for volume reduction prior to shipment for disposal and bioremediation treatability studies.

In addition to RCRA regulated activities, Rinchem will also be managing non-RCRA regulated wastes at the facility and storing various chemicals for its chemical distribution and warehousing operations.

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

N M D 0 0 2 2 0 8 6 2 7

XII. Process Codes and Design Capabilities (Continued)

EXAMPLE FOR COMPLETING ITEM XII (Shown in line number X-1 below): A facility has a storage tank, which can hold 533,788 gallons.

| Line Number | A. Process Code (From list above) | B. PROCESS DESIGN CAPACITY | | C. Process Total Number Of Units | For Official Use Only |
|-------------|--------------------------------------|----------------------------|------------------------------------|----------------------------------|-----------------------|
| | | 1. Amount (Specify) | 2. Unit Of Measure (Enter code) | | |
| X 1 | S 0 2 | 5 3 3 7 8 8 | G | 0 0 1 | |
| 1 | S 0 1 | 5 5 0 0 0 | G | 0 0 1 | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 1 0 | | | | | |
| 1 1 | | | | | |
| 1 2 | | | | | |
| 1 3 | | | | | |

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in Item XIII.

XIII. Other Processes (Follow Instructions from Item XII for D99, S99, T04 and X99 process codes)

| Line Number (Enter as in seg w/XII) | A. Process Code (From list above) | B. PROCESS DESIGN CAPACITY | | C. Process Total Number Of Units | D. Description Of Process |
|--|--------------------------------------|----------------------------|------------------------------------|----------------------------------|---------------------------|
| | | 1. Amount (Specify) | 2. Unit Of Measure (Enter code) | | |
| X 1 | T 0 4 | | | | In-situ Vitrification |
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

N M D 0 0 2 2 0 8 6 2 7

XIV. Description of Hazardous Wastes

A. EPA HAZARDOUS WASTE NUMBER - Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

| ENGLISH UNIT OF MEASURE | CODE | METRIC UNIT OF MEASURE | CODE |
|-------------------------|------|------------------------|------|
| POUNDS | P | KILOGRAMS | K |
| TONS | T | METRIC TONS | M |

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES**1. PROCESS CODES:**

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in item XII A. on page 3 to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in item XII A. on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

- Enter the first two as described above.
- Enter "000" in the extreme right box of item XIV-D(1).
- Enter in the space provided on page 7, item XIV-E, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form (D(2)).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

- Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.
- Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM XIV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

| Line Number | A. EPA HAZARD WASTE NO. (Enter code) | B. ESTIMATED ANNUAL QUANTITY OF WASTE | C. UNIT OF MEASURE (Enter code) | D. PROCESS | |
|-------------|--------------------------------------|---------------------------------------|---------------------------------|--------------------------------|--|
| | | | | (1) PROCESS CODES (Enter code) | (2) PROCESS DESCRIPTION (If a code is not entered in D(1)) |
| 1 | K 0 5 4 | 900 | P | T 0 3 D 8 0 | |
| 2 | D 0 0 2 | 400 | P | T 0 3 D 8 0 | |
| 3 | D 0 0 1 | 100 | P | T 0 3 D 8 0 | |
| 4 | D 0 0 2 | | | | Included With Above |

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

N M D 0 0 2 2 0 8 6 2 7

XIV. Description of Hazardous Wastes (Continued)

| Line Number | A. EPA HAZARDOUS WASTE NO. (Enter code) | B. ESTIMATED ANNUAL QUANTITY OF WASTE | C. UNIT OF MEASURE (Enter Code) | D. PROCESSES | |
|-------------|---|---------------------------------------|---------------------------------|--------------------------------|--|
| | | | | (1) PROCESS CODES (Enter code) | (2) PROCESS DESCRIPTION (If a code is not entered in D(1)) |
| 1 | | | | | |
| 2 | | See attached list | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | | | | | |
| 26 | | | | | |
| 27 | | | | | |
| 28 | | | | | |
| 29 | | | | | |
| 30 | | | | | |
| 31 | | | | | |
| 32 | | | | | |
| 33 | | | | | |

EPA I.D. Number - NMD002208627

| EPA Hazardous Waste Number | Estimated Annual Quantity of Waste | Unit of Measure | Process Codes |
|-------------------------------|--|-----------------------|---------------|
| D001 | 2200 | T | S01 |
| D002 | 500 | T | S01 |
| D003 | 500 | T | S01 |
| D004 | 25 | T | S01 |
| D005 | 25 | T | S01 |
| D006 | 25 | T | S01 |
| D007 | 25 | T | S01 |
| D008 | 25 | T | S01 |
| D009 | 25 | T | S01 |
| D010 | 25 | T | S01 |
| D011 | 25 | T | S01 |
| D012 | 25 | T | S01 |
| D013 | 25 | T | S01 |
| D014 | 25 | T | S01 |
| D015 | 25 | T | S01 |
| D016 | 25 | T | S01 |
| D017 | 25 | T | S01 |
| D018 | 25 | T | S01 |
| D019 | 25 | T | S01 |
| D020 | 25 | T | S01 |
| D021 | 25 | T | S01 |
| D022 | 25 | T | S01 |
| D023 | 25 | T | S01 |
| D024 | 25 | T | S01 |
| D025 | 25 | T | S01 |
| D026 | 25 | T | S01 |
| D027 | 25 | T | S01 |
| D028 | 25 | T | S01 |
| D029 | 25 | T | S01 |
| D030 | 25 | T | S01 |
| D031 | 25 | T | S01 |
| D032 | 25 | T | S01 |
| D033 | 25 | T | S01 |
| D034 | 25 | T | S01 |
| D035 | 25 | T | S01 |
| D036 | 25 | T | S01 |
| D037 | 25 | T | S01 |
| D038 | 25 | T | S01 |

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| EPA Hazardous Waste Number | Estimated Annual Quantity of Waste | Unit of Measure | Process Codes |
|-------------------------------|--|-----------------------|---------------|
| D039 | 25 | T | S01 |
| D040 | 25 | T | S01 |
| D041 | 25 | T | S01 |
| D042 | 25 | T | S01 |
| D043 | 25 | T | S01 |
| F001 | 1100 | T | S01 |
| F002 | 1100 | T | S01 |
| F003 | 1100 | T | S01 |
| F004 | 500 | T | S01 |
| F005 | 500 | T | S01 |
| F006 | 25 | T | S01 |
| F007 | 25 | T | S01 |
| F008 | 25 | T | S01 |
| F009 | 25 | T | S01 |
| F010 | 25 | T | S01 |
| F011 | 25 | T | S01 |
| F012 | 25 | T | S01 |
| F013 | 25 | T | S01 |
| F014 | 25 | T | S01 |
| F015 | 25 | T | S01 |
| F016 | 25 | T | S01 |
| F017 | 25 | T | S01 |
| F018 | 25 | T | S01 |
| F019 | 25 | T | S01 |
| F020 | 25 | T | S01 |
| F021 | 25 | T | S01 |
| F022 | 25 | T | S01 |
| F023 | 25 | T | S01 |
| F024 | 25 | T | S01 |
| F025 | 25 | T | S01 |
| F026 | 25 | T | S01 |
| F027 | 25 | T | S01 |
| F028 | 25 | T | S01 |
| F029 | 25 | T | S01 |
| F030 | 25 | T | S01 |

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| EPA Hazardous Waste Number | Estimated Annual Quantity of Waste | Unit of Measure | Process Codes |
|-------------------------------|--|-----------------------|---------------|
| F031 | 25 | T | S01 |
| F032 | 25 | T | S01 |
| F033 | 25 | T | S01 |
| F034 | 25 | T | S01 |
| F035 | 25 | T | S01 |
| F036 | 25 | T | S01 |
| F037 | 25 | T | S01 |
| F038 | 25 | T | S01 |
| F039 | 25 | T | S01 |
| K001 | 25 | T | S01 |
| K002 | 25 | T | S01 |
| K003 | 25 | T | S01 |
| K004 | 25 | T | S01 |
| K005 | 25 | T | S01 |
| K006 | 25 | T | S01 |
| K007 | 25 | T | S01 |
| K008 | 25 | T | S01 |
| K009 | 25 | T | S01 |
| K010 | 25 | T | S01 |
| K011 | 25 | T | S01 |
| K012 | 25 | T | S01 |
| K013 | 25 | T | S01 |
| K014 | 25 | T | S01 |
| K015 | 25 | T | S01 |
| K016 | 25 | T | S01 |
| K017 | 25 | T | S01 |
| K018 | 25 | T | S01 |
| K019 | 25 | T | S01 |
| K020 | 25 | T | S01 |
| K021 | 25 | T | S01 |
| K022 | 25 | T | S01 |
| K023 | 25 | T | S01 |
| K024 | 25 | T | S01 |
| K025 | 25 | T | S01 |
| K026 | 25 | T | S01 |
| K027 | 25 | T | S01 |

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| EPA Hazardous Waste Number | Estimated Annual Quantity of Waste | Unit of Measure | Process Codes |
|-------------------------------|--|-----------------------|---------------|
| K028 | 25 | T | S01 |
| K029 | 25 | T | S01 |
| K030 | 25 | T | S01 |
| K031 | 25 | T | S01 |
| K032 | 25 | T | S01 |
| K033 | 25 | T | S01 |
| K034 | 25 | T | S01 |
| K035 | 25 | T | S01 |
| K036 | 25 | T | S01 |
| K037 | 25 | T | S01 |
| K038 | 25 | T | S01 |
| K039 | 25 | T | S01 |
| K040 | 25 | T | S01 |
| K041 | 25 | T | S01 |
| K042 | 25 | T | S01 |
| K043 | 25 | T | S01 |
| K044 | 25 | T | S01 |
| K045 | 25 | T | S01 |
| K046 | 25 | T | S01 |
| K047 | 25 | T | S01 |
| K048 | 25 | T | S01 |
| K049 | 25 | T | S01 |
| K050 | 25 | T | S01 |
| K051 | 25 | T | S01 |
| K052 | 25 | T | S01 |
| K053 | 25 | T | S01 |
| K054 | 25 | T | S01 |
| K055 | 25 | T | S01 |
| K056 | 25 | T | S01 |
| K057 | 25 | T | S01 |
| K058 | 25 | T | S01 |
| K059 | 25 | T | S01 |
| K060 | 25 | T | S01 |
| K061 | 25 | T | S01 |
| K062 | 25 | T | S01 |
| K063 | 25 | T | S01 |
| K064 | 25 | T | S01 |
| K065 | 25 | T | S01 |

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| EPA Hazardous Waste Number | Estimated Annual Quantity of Waste | Unit of Measure | Process Codes |
|-------------------------------|--|-----------------------|---------------|
| K066 | 25 | T | S01 |
| K067 | 25 | T | S01 |
| K068 | 25 | T | S01 |
| K069 | 25 | T | S01 |
| K070 | 25 | T | S01 |
| K071 | 25 | T | S01 |
| K072 | 25 | T | S01 |
| K073 | 25 | T | S01 |
| K074 | 25 | T | S01 |
| K075 | 25 | T | S01 |
| K076 | 25 | T | S01 |
| K077 | 25 | T | S01 |
| K078 | 25 | T | S01 |
| K079 | 25 | T | S01 |
| K080 | 25 | T | S01 |
| K081 | 25 | T | S01 |
| K082 | 25 | T | S01 |
| K083 | 25 | T | S01 |
| K084 | 25 | T | S01 |
| K085 | 25 | T | S01 |
| K086 | 25 | T | S01 |
| K087 | 25 | T | S01 |
| K088 | 25 | T | S01 |
| K089 | 25 | T | S01 |
| K090 | 25 | T | S01 |
| K091 | 25 | T | S01 |
| K092 | 25 | T | S01 |
| K093 | 25 | T | S01 |
| K094 | 25 | T | S01 |
| K095 | 25 | T | S01 |
| K096 | 25 | T | S01 |
| K097 | 25 | T | S01 |
| K098 | 25 | T | S01 |
| K099 | 25 | T | S01 |
| K100 | 25 | T | S01 |
| K101 | 25 | T | S01 |
| K102 | 25 | T | S01 |
| K103 | 25 | T | S01 |

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EPA I.D. Number NMD002208627

| EPA Hazardous Waste Number | Estimated Annual Quantity of Waste | Unit of Measure | Process Codes |
|-------------------------------|--|-----------------------|---------------|
| K104 | 25 | T | S01 |
| K105 | 25 | T | S01 |
| K106 | 25 | T | S01 |
| K107 | 25 | T | S01 |
| K108 | 25 | T | S01 |
| K109 | 25 | T | S01 |
| K110 | 25 | T | S01 |
| K111 | 25 | T | S01 |
| K112 | 25 | T | S01 |
| K113 | 25 | T | S01 |
| K114 | 25 | T | S01 |
| K115 | 25 | T | S01 |
| K116 | 25 | T | S01 |
| K117 | 25 | T | S01 |
| K118 | 25 | T | S01 |
| K119 | 25 | T | S01 |
| K120 | 25 | T | S01 |
| K121 | 25 | T | S01 |
| K122 | 25 | T | S01 |
| K123 | 25 | T | S01 |
| K124 | 25 | T | S01 |
| K125 | 25 | T | S01 |
| K126 | 25 | T | S01 |
| K127 | 25 | T | S01 |
| K128 | 25 | T | S01 |
| K129 | 25 | T | S01 |
| K130 | 25 | T | S01 |
| K131 | 25 | T | S01 |
| K132 | 25 | T | S01 |
| K133 | 25 | T | S01 |
| K134 | 25 | T | S01 |
| K135 | 25 | T | S01 |
| K136 | 25 | T | S01 |
| P001 | 2 | T | S01 |
| P002 | 2 | T | S01 |
| P003 | 2 | T | S01 |

December 2, 1994

EPA I.D. Number NMD002208627

| EPA Hazardous Waste Number | Estimated Annual Quantity of Waste | Process Codes of Measure | Unit |
|-------------------------------|--|--------------------------------|------|
| P004 | 2 | T | S01 |
| P005 | 2 | T | S01 |
| P006 | 2 | T | S01 |
| P007 | 2 | T | S01 |
| P008 | 2 | T | S01 |
| P009 | 2 | T | S01 |
| P010 | 2 | T | S01 |
| P011 | 2 | T | S01 |
| P012 | 2 | T | S01 |
| P013 | 2 | T | S01 |
| P014 | 2 | T | S01 |
| P015 | 2 | T | S01 |
| P016 | 2 | T | S01 |
| P017 | 2 | T | S01 |
| P018 | 2 | T | S01 |
| P019 | 2 | T | S01 |
| P020 | 2 | T | S01 |
| P021 | 2 | T | S01 |
| P022 | 2 | T | S01 |
| P023 | 2 | T | S01 |
| P024 | 2 | T | S01 |
| P025 | 2 | T | S01 |
| P026 | 2 | T | S01 |
| P027 | 2 | T | S01 |
| P028 | 2 | T | S01 |
| P029 | 2 | T | S01 |
| P030 | 2 | T | S01 |
| P031 | 2 | T | S01 |
| P032 | 2 | T | S01 |
| P033 | 2 | T | S01 |
| P034 | 2 | T | S01 |
| P035 | 2 | T | S01 |
| P036 | 2 | T | S01 |
| P037 | 2 | T | S01 |
| P038 | 2 | T | S01 |
| P039 | 2 | T | S01 |
| P040 | 2 | T | S01 |

December 2, 1994

EPA I.D. Number NMD002208627

| EPA Hazardous Waste Number | Estimated Annual Quantity of Waste | Unit of Measure | Process Codes |
|-------------------------------|--|-----------------------|---------------|
| P041 | 2 | T | S01 |
| P042 | 2 | T | S01 |
| P043 | 2 | T | S01 |
| P044 | 2 | T | S01 |
| P045 | 2 | T | S01 |
| P046 | 2 | T | S01 |
| P047 | 2 | T | S01 |
| P048 | 2 | T | S01 |
| P049 | 2 | T | S01 |
| P050 | 2 | T | S01 |
| P051 | 2 | T | S01 |
| P052 | 2 | T | S01 |
| P053 | 2 | T | S01 |
| P054 | 2 | T | S01 |
| P055 | 2 | T | S01 |
| P056 | 2 | T | S01 |
| P057 | 2 | T | S01 |
| P058 | 2 | T | S01 |
| P059 | 2 | T | S01 |
| P060 | 2 | T | S01 |
| P061 | 2 | T | S01 |
| P062 | 2 | T | S01 |
| P063 | 2 | T | S01 |
| P064 | 2 | T | S01 |
| P065 | 2 | T | S01 |
| P066 | 2 | T | S01 |
| P067 | 2 | T | S01 |
| P068 | 2 | T | S01 |
| P069 | 2 | T | S01 |
| P070 | 2 | T | S01 |
| P071 | 2 | T | S01 |
| P072 | 2 | T | S01 |
| P073 | 2 | T | S01 |
| P074 | 2 | T | S01 |
| P075 | 2 | T | S01 |
| P076 | 2 | T | S01 |
| P077 | 2 | T | S01 |
| P078 | 2 | T | S01 |

December 2, 1994

EPA I.D. Number NMD002208627

| EPA Hazardous Waste Number | Estimated Annual Quantity of Waste | Unit of Measure | Process Codes |
|-------------------------------|--|-----------------------|---------------|
| P079 | 2 | T | S01 |
| P080 | 2 | T | S01 |
| P081 | 2 | T | S01 |
| P082 | 2 | T | S01 |
| P083 | 2 | T | S01 |
| P084 | 2 | T | S01 |
| P085 | 2 | T | S01 |
| P086 | 2 | T | S01 |
| P087 | 2 | T | S01 |
| P088 | 2 | T | S01 |
| P089 | 2 | T | S01 |
| P090 | 2 | T | S01 |
| P091 | 2 | T | S01 |
| P092 | 2 | T | S01 |
| P093 | 2 | T | S01 |
| P094 | 2 | T | S01 |
| P095 | 2 | T | S01 |
| P096 | 2 | T | S01 |
| P097 | 2 | T | S01 |
| P098 | 2 | T | S01 |
| P099 | 2 | T | S01 |
| P100 | 2 | T | S01 |
| P101 | 2 | T | S01 |
| P102 | 2 | T | S01 |
| P103 | 2 | T | S01 |
| P104 | 2 | T | S01 |
| P105 | 2 | T | S01 |
| P106 | 2 | T | S01 |
| P107 | 2 | T | S01 |
| P108 | 2 | T | S01 |
| P109 | 2 | T | S01 |
| P110 | 2 | T | S01 |
| P111 | 2 | T | S01 |
| P112 | 2 | T | S01 |
| P113 | 2 | T | S01 |
| P114 | 2 | T | S01 |
| P115 | 2 | T | S01 |
| P116 | 2 | T | S01 |

December 2, 1994

EPA I.D. Number NMD002208627

| EPA Hazardous Waste Number | Estimated Annual Quantity of Waste | Unit of Measure | Process Codes |
|-------------------------------|--|-----------------------|---------------|
| P117 | 2 | T | S01 |
| P118 | 2 | T | S01 |
| P119 | 2 | T | S01 |
| P120 | 2 | T | S01 |
| P121 | 2 | T | S01 |
| P122 | 2 | T | S01 |
| P123 | 2 | T | S01 |
| S01 | | | |
| U001 | 2 | T | S01 |
| U002 | 2 | T | S01 |
| U003 | 2 | T | S01 |
| U004 | 2 | T | S01 |
| U005 | 2 | T | S01 |
| U006 | 2 | T | S01 |
| U007 | 2 | T | S01 |
| U008 | 2 | T | S01 |
| U009 | 2 | T | S01 |
| U010 | 2 | T | S01 |
| U011 | 2 | T | S01 |
| U012 | 2 | T | S01 |
| U013 | 2 | T | S01 |
| U014 | 2 | T | S01 |
| U015 | 2 | T | S01 |
| U016 | 2 | T | S01 |
| U017 | 2 | T | S01 |
| U018 | 2 | T | S01 |
| U019 | 2 | T | S01 |
| U020 | 2 | T | S01 |
| U021 | 2 | T | S01 |
| U022 | 2 | T | S01 |
| U023 | 2 | T | S01 |
| U024 | 2 | T | S01 |
| U025 | 2 | T | S01 |
| U026 | 2 | T | S01 |
| U027 | 2 | T | S01 |
| U028 | 2 | T | S01 |
| U029 | 2 | T | S01 |

December 2, 1994

EPA I.D. Number NMD002208627

| EPA Hazardous Waste Number | Estimated Annual Quantity of Waste | Unit of Measure | Process Codes |
|-------------------------------|--|-----------------------|---------------|
| U030 | 2 | T | S01 |
| U031 | 2 | T | S01 |
| U032 | 2 | T | S01 |
| U033 | 2 | T | S01 |
| U034 | 2 | T | S01 |
| U035 | 2 | T | S01 |
| U036 | 2 | T | S01 |
| U037 | 2 | T | S01 |
| U038 | 2 | T | S01 |
| U039 | 2 | T | S01 |
| U040 | 2 | T | S01 |
| U041 | 2 | T | S01 |
| U042 | 2 | T | S01 |
| U043 | 2 | T | S01 |
| U044 | 2 | T | S01 |
| U045 | 2 | T | S01 |
| U046 | 2 | T | S01 |
| U047 | 2 | T | S01 |
| U048 | 2 | T | S01 |
| U049 | 2 | T | S01 |
| U050 | 2 | T | S01 |
| U051 | 2 | T | S01 |
| U052 | 2 | T | S01 |
| U053 | 2 | T | S01 |
| U054 | 2 | T | S01 |
| U055 | 2 | T | S01 |
| U056 | 2 | T | S01 |
| U057 | 2 | T | S01 |
| U058 | 2 | T | S01 |
| U059 | 2 | T | S01 |
| U060 | 2 | T | S01 |
| U061 | 2 | T | S01 |
| U062 | 2 | T | S01 |
| U063 | 2 | T | S01 |
| U064 | 2 | T | S01 |
| U065 | 2 | T | S01 |
| U066 | 2 | T | S01 |
| U067 | 2 | T | S01 |

December 2, 1994

EPA I.D. Number NMD002208627

| EPA Hazardous Waste Number | Estimated Annual Quantity of Waste | Unit of Measure | Process Codes |
|-------------------------------|--|-----------------------|---------------|
| U068 | 2 | T | S01 |
| U069 | 2 | T | S01 |
| U070 | 2 | T | S01 |
| U071 | 2 | T | S01 |
| U072 | 2 | T | S01 |
| U073 | 2 | T | S01 |
| U074 | 2 | T | S01 |
| U075 | 2 | T | S01 |
| U076 | 2 | T | S01 |
| U077 | 2 | T | S01 |
| U078 | 2 | T | S01 |
| U079 | 2 | T | S01 |
| U080 | 2 | T | S01 |
| U081 | 2 | T | S01 |
| U082 | 2 | T | S01 |
| U083 | 2 | T | S01 |
| U084 | 2 | T | S01 |
| U085 | 2 | T | S01 |
| U086 | 2 | T | S01 |
| U087 | 2 | T | S01 |
| U088 | 2 | T | S01 |
| U089 | 2 | T | S01 |
| U090 | 2 | T | S01 |
| U091 | 2 | T | S01 |
| U092 | 2 | T | S01 |
| U093 | 2 | T | S01 |
| U094 | 2 | T | S01 |
| U095 | 2 | T | S01 |
| U096 | 2 | T | S01 |
| U097 | 2 | T | S01 |
| U098 | 2 | T | S01 |
| U099 | 2 | T | S01 |
| U100 | 2 | T | S01 |
| U101 | 2 | T | S01 |
| U102 | 2 | T | S01 |
| U103 | 2 | T | S01 |
| U104 | 2 | T | S01 |
| U105 | 2 | T | S01 |

December 2, 1994

EPA I.D. Number NMD002208627

| EPA Hazardous Waste Number | Estimated Annual Quantity of Waste | Unit of Measure | Process Codes |
|-------------------------------|--|-----------------------|---------------|
| U106 | 2 | T | S01 |
| U107 | 2 | T | S01 |
| U108 | 2 | T | S01 |
| U109 | 2 | T | S01 |
| U110 | 2 | T | S01 |
| U111 | 2 | T | S01 |
| U112 | 2 | T | S01 |
| U113 | 2 | T | S01 |
| U114 | 2 | T | S01 |
| U115 | 2 | T | S01 |
| U116 | 2 | T | S01 |
| U117 | 2 | T | S01 |
| U118 | 2 | T | S01 |
| U119 | 2 | T | S01 |
| U120 | 2 | T | S01 |
| U121 | 2 | T | S01 |
| U122 | 2 | T | S01 |
| U123 | 2 | T | S01 |
| U124 | 2 | T | S01 |
| U125 | 2 | T | S01 |
| U126 | 2 | T | S01 |
| U127 | 2 | T | S01 |
| U128 | 2 | T | S01 |
| U129 | 2 | T | S01 |
| U130 | 2 | T | S01 |
| U131 | 2 | T | S01 |
| U132 | 2 | T | S01 |
| U133 | 2 | T | S01 |
| U134 | 2 | T | S01 |
| U135 | 2 | T | S01 |
| U136 | 2 | T | S01 |
| U137 | 2 | T | S01 |
| U138 | 2 | T | S01 |
| U139 | 2 | T | S01 |
| U140 | 2 | T | S01 |
| U141 | 2 | T | S01 |
| U142 | 2 | T | S01 |
| U143 | 2 | T | S01 |

December 2, 1994

EPA I.D. Number NMD002208627

| EPA Hazardous Waste Number | Estimated Annual Quantity of Waste | Unit of Measure | Process Codes |
|-------------------------------|--|-----------------------|---------------|
| U144 | 2 | T | S01 |
| U145 | 2 | T | S01 |
| U146 | 2 | T | S01 |
| U147 | 2 | T | S01 |
| U148 | 2 | T | S01 |
| U149 | 2 | T | S01 |
| U150 | 2 | T | S01 |
| U151 | 2 | T | S01 |
| U152 | 2 | T | S01 |
| U153 | 2 | T | S01 |
| U154 | 2 | T | S01 |
| U155 | 2 | T | S01 |
| U156 | 2 | T | S01 |
| U157 | 2 | T | S01 |
| U158 | 2 | T | S01 |
| U159 | 2 | T | S01 |
| U160 | 2 | T | S01 |
| U161 | 2 | T | S01 |
| U162 | 2 | T | S01 |
| U163 | 2 | T | S01 |
| U164 | 2 | T | S01 |
| U165 | 2 | T | S01 |
| U166 | 2 | T | S01 |
| U167 | 2 | T | S01 |
| U168 | 2 | T | S01 |
| U169 | 2 | T | S01 |
| U170 | 2 | T | S01 |
| U171 | 2 | T | S01 |
| U172 | 2 | T | S01 |
| U173 | 2 | T | S01 |
| U174 | 2 | T | S01 |
| U175 | 2 | T | S01 |
| U176 | 2 | T | S01 |
| U177 | 2 | T | S01 |
| U178 | 2 | T | S01 |
| U179 | 2 | T | S01 |
| U180 | 2 | T | S01 |
| U181 | 2 | T | S01 |

December 2, 1994

EPA I.D. Number NMD002208627

| EPA Hazardous Waste Number | Estimated- Annual Quantity of Waste | Unit of Measure | Process Codes |
|-------------------------------|---|-----------------------|---------------|
| U182 | 2 | T | S01 |
| U183 | 2 | T | S01 |
| U184 | 2 | T | S01 |
| U185 | 2 | T | S01 |
| U186 | 2 | T | S01 |
| U187 | 2 | T | S01 |
| U188 | 2 | T | S01 |
| U189 | 2 | T | S01 |
| U190 | 2 | T | S01 |
| U191 | 2 | T | S01 |
| U192 | 2 | T | S01 |
| U193 | 2 | T | S01 |
| U194 | 2 | T | S01 |
| U195 | 2 | T | S01 |
| U196 | 2 | T | S01 |
| U197 | 2 | T | S01 |
| U198 | 2 | T | S01 |
| U199 | 2 | T | S01 |
| U200 | 2 | T | S01 |
| U201 | 2 | T | S01 |
| U202 | 2 | T | S01 |
| U203 | 2 | T | S01 |
| U204 | 2 | T | S01 |
| U205 | 2 | T | S01 |
| U206 | 2 | T | S01 |
| U207 | 2 | T | S01 |
| U208 | 2 | T | S01 |
| U209 | 2 | T | S01 |
| U210 | 2 | T | S01 |
| U211 | 2 | T | S01 |
| U212 | 2 | T | S01 |
| U213 | 2 | T | S01 |
| U214 | 2 | T | S01 |
| U215 | 2 | T | S01 |
| U216 | 2 | T | S01 |
| U217 | 2 | T | S01 |
| U218 | 2 | T | S01 |
| U219 | 2 | T | S01 |

December 2, 1994

EPA I.D. Number NMD002208627

| EPA Hazardous Waste Number | Estimated Annual Quantity of Waste | Unit of Measure | Process Codes |
|-------------------------------|--|-----------------------|---------------|
| U220 | 2 | T | S01 |
| U221 | 2 | T | S01 |
| U222 | 2 | T | S01 |
| U223 | 2 | T | S01 |
| U224 | 2 | T | S01 |
| U225 | 2 | T | S01 |
| U226 | 2 | T | S01 |
| U227 | 2 | T | S01 |
| U228 | 2 | T | S01 |
| U229 | 2 | T | S01 |
| U230 | 2 | T | S01 |
| U231 | 2 | T | S01 |
| U232 | 2 | T | S01 |
| U233 | 2 | T | S01 |
| U234 | 2 | T | S01 |
| U235 | 2 | T | S01 |
| U236 | 2 | T | S01 |
| U237 | 2 | T | S01 |
| U238 | 2 | T | S01 |
| U239 | 2 | T | S01 |
| U240 | 2 | T | S01 |
| U241 | 2 | T | S01 |
| U242 | 2 | T | S01 |
| U243 | 2 | T | S01 |
| U244 | 2 | T | S01 |
| U245 | 2 | T | S01 |
| U246 | 2 | T | S01 |
| U247 | 2 | T | S01 |
| U248 | 2 | T | S01 |
| U249 | 2 | T | S01 |

December 2, 1994

| | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|--|--|--|
| EPA I.D. Number (Enter from page 1) | | | | | | | | | | | | Secondary ID Number (Enter from page 1) | | | | | | | | | | | |
| N | M | D | 0 | 0 | 2 | 2 | 0 | 8 | 6 | 2 | 7 | | | | | | | | | | | | |

XV. Map

Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

XVI. Facility Drawing

All existing facilities must include a scale drawing of the facility (see instructions for more detail).

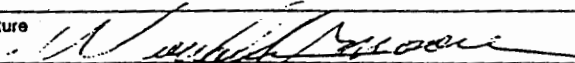
XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

XVIII. Certification(s)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner Signature



Date Signed

2-7-95

Name and Official Title (Type or print)

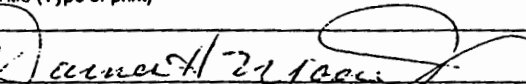
RCT Services Company William W. Moore, Proprietor

Owner Signature

Date Signed

Name and Official Title (Type or print)

Operator Signature



Date Signed

2-7-95

Name and Official Title (Type or print)

Rinchem Company, Inc. James H. Moore, Vice President

Operator Signature

Date Signed

Name and Official Title (Type or print)

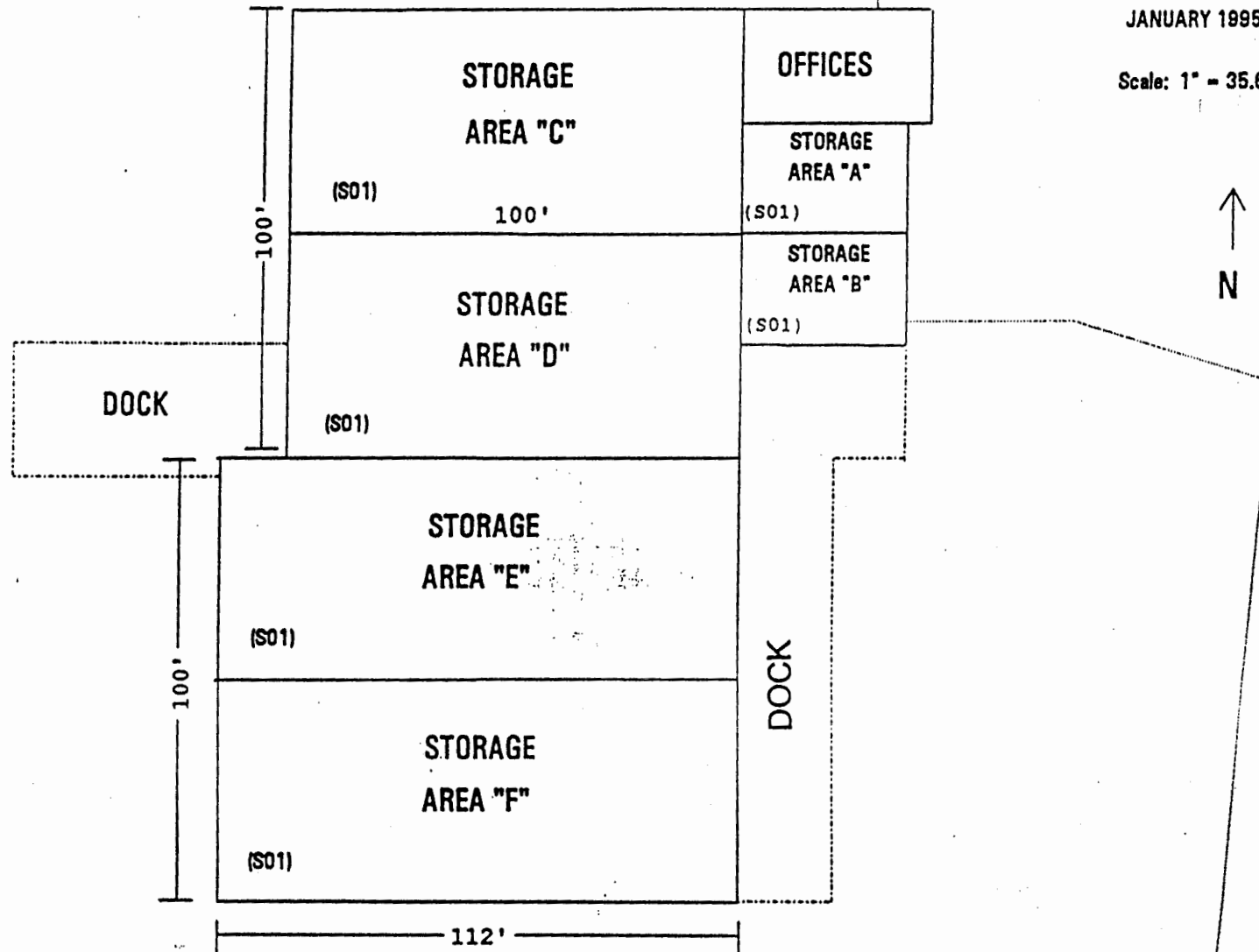
XIX. Comments

Note: Mail completed form to the appropriate EPA Regional or State Office. (Refer to instructions for more information)

FIGURE 2
Rinchem Company, Inc. Facility

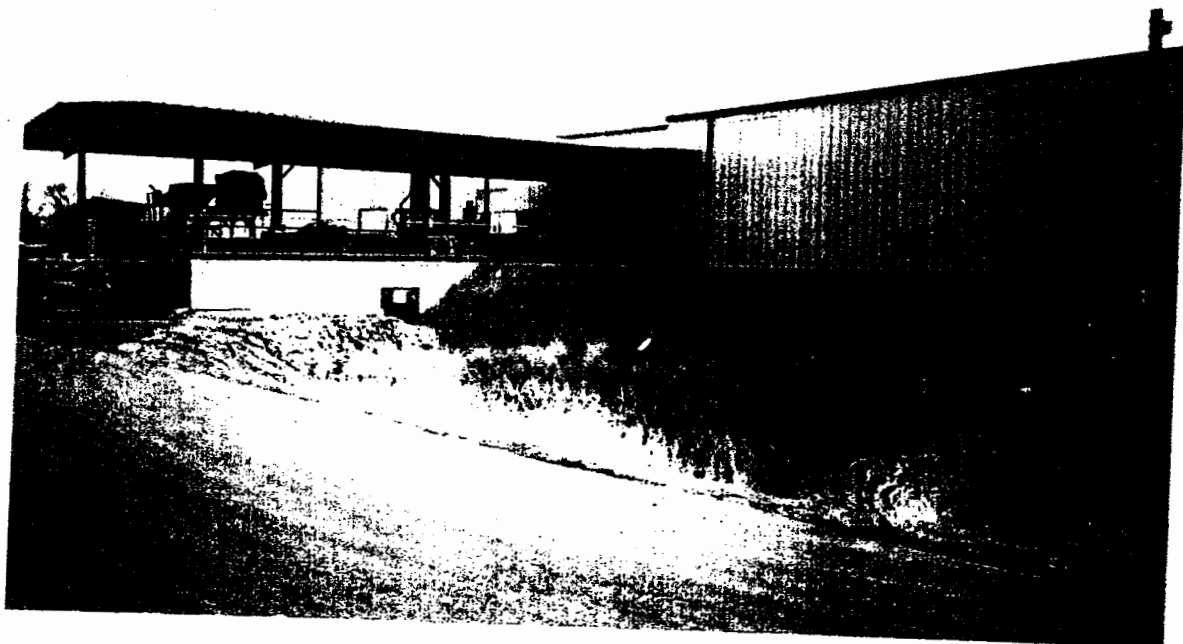
JANUARY 1995

Scale: 1" = 35.6'





Front Dock
January 24, 1995



South Containment Pond
January 24, 1995



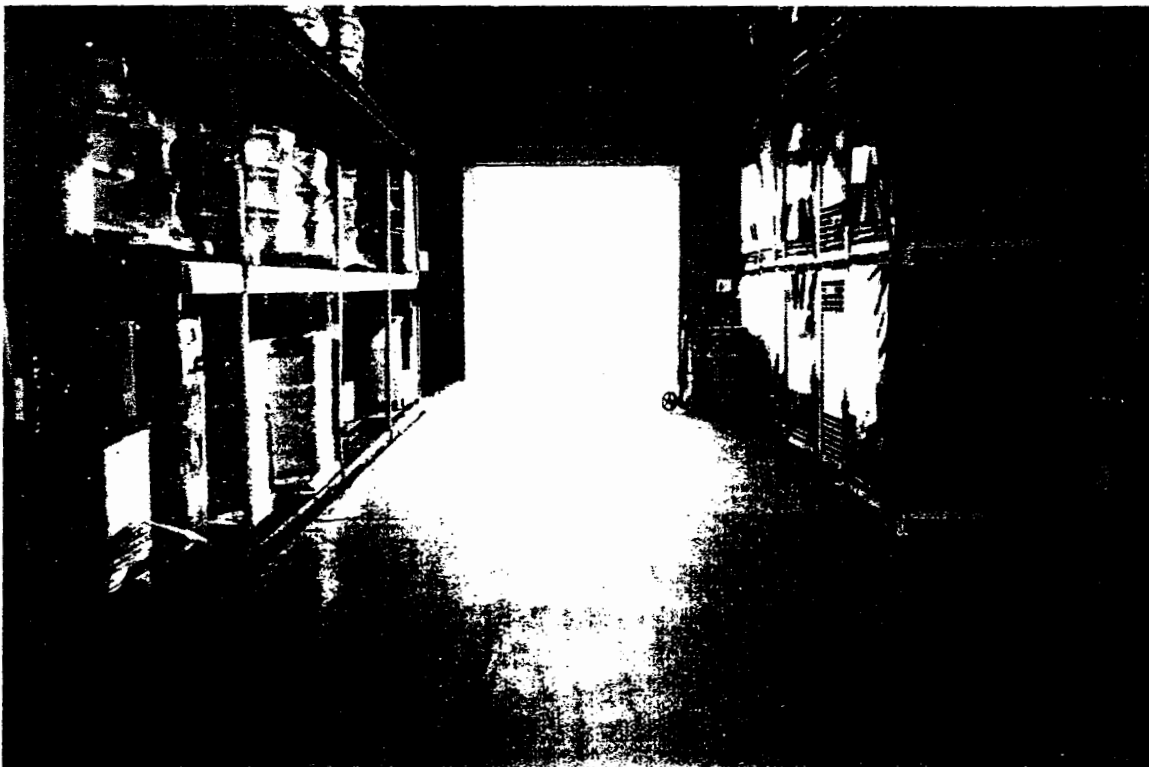
Rinchem Company, Inc. Warehouse and Office Building
January 24, 1995



Warehouse Gate and Front Dock
January 24, 1995



Ramp from Dock into Storage Room D
January 24, 1995



Storage Room F
January 24, 1995



Storage Room E
January 24, 1995



Storage Room C
January 24, 1995

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GENERAL FACILITY DESCRIPTION [40 CFR 270.14(b)(1)]

The Rinchem Company, Inc. (Rinchem) Albuquerque facility is located at 6133 Edith Blvd N.E., Bernalillo County, New Mexico. The two-acre site is zoned M-1. The facility is 600 feet west of Edith Blvd. and just east of the Santa Fe Railroad mainline.

The legal description of the property as recorded in book C21 on page 80 filed in the office of the Bernalillo County Clerk is as follows:

Lot 4A-1 Subdivision of Lot 4A Edith Land Company, as the same is shown and designated on the Replat of Lot 4A, Edith Land Company, now comprising Lots 4A-1, 4A-2, filed in the Office of the County Clerk, New Mexico, on May 20, 1983.

The facility consists of an approximately 23,000 square foot warehouse and office, loading/unloading dock, a back dock and two rainwater containment areas.

CHEMICAL AND PHYSICAL ANALYSIS [40 CFR 270.14(b)(2)]

Before accepting a generator's waste at the facility, Rinchem requires the generator to provide data defining the chemical and physical characteristics of the waste stream. Profiles of each waste accepted at the facility are maintained in office files at the facility. Profiling and waste analysis procedures used at the Rinchem facility are given in the Waste Analysis Plan.

Rinchem will accept wastes for storage under this permit that have any of the listed EPA waste codes (F001-F039, K001-K136, P001-P123 and U001-U249) and wastes that exhibit any of the characteristics of ignitability, corrosivity, toxicity and/or reactivity (waste codes D001-D043). Rinchem will also accept combinations of listed wastes and/or characteristic wastes.

WASTE ANALYSIS PLAN [40 CFR 270.14(b)(3)]

Attached is a copy of the Rinchem Company Inc.'s waste analysis plan.

RINCHEM COMPANY INC.'S WASTE ANALYSIS PLAN

Introduction

This plan will be maintained as part of the permit and at the facility as a separate document in order to ensure that wastes can be handled, stored and disposed of in accordance with RCRA requirements. The procedures in the waste analysis plan will pertain to wastes from domestic and foreign sources. The only procedure that will be different for the acceptance of foreign waste will be that Rinchem will notify the Regional Administrator in writing at least four weeks in advance of the date the first shipment of waste from a new waste stream is expected to arrive at the facility. See the following page for an example of the form to be used. The notification will be made for each different waste stream from each foreign source.

Waste Characterization

In order to safely handle and store hazardous wastes and ensure that land disposal restrictions are met, the wastes must be correctly characterized. Four types of characterization that will be used are

- Knowledge of process (KOP) and published information
- Detailed chemical analysis
- Hazardous Materials Categorization (HazCat) procedures
- Chemical fingerprint checks

Knowledge of process(KOP) is the knowledge that a generator has about the waste such as the content of the waste and the process that produced the waste. This knowledge helps with the

determination of the waste characterization and is many times sufficient to determine both the hazards associated with handling and storage and the requirements and restrictions for disposal. Existing published or documented data such as Material Safety Data Sheets (MSDS) on the hazardous waste or waste produced from similar processes can also be used. An example of the form used by Rinchem follows.

When KOP is not adequate to determine the safe handling, storage and/or treatment procedures, a detailed chemical analysis of a sample of the waste stream will be performed by a qualified laboratory with proper QA/QC procedures in place when submitting the waste stream profile. The containers and preservatives used for the sample will be specified by the lab doing the analyzation, and the sample will be sent to the lab with a chain of custody form. Testing parameters are chosen based on the knowledge of the process from which the waste was produced and the information that the analysis yields about the waste, for example, Btu values, flashpoint, etc. The test methods that will be used are described in the most current version of EPA's "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846" or comparable methods.

-

HazCat procedures - the processes and tests described in "HAZCAT™ CHEMICAL IDENTIFICATION SYSTEM" (Turkington, 1988, or most current) to identify unknowns - or a comparable method are followed to help characterize solid and liquid wastes that can not be positively identified by the generator or from labeling information. Our HazCat system has over a hundred tests which allow us to identify the hazardous characteristics of the waste material. The properties that can be tested for include:

- flammability levels
- oxidizer characteristics
- corrosive characteristics
- reactivity
- cyanides
- halides
- PCB presence
- pesticides
- herbicides

To verify that the characteristics of the waste stream are consistent with the information provided by the generator and with the parameters listed on the profile for that waste stream, a chemical fingerprint check will be performed on each incoming waste stream excluding labpacks and highly reactive wastes. Fingerprint procedures will be conducted according to published methods such as Turkington, 1988, or equivalent. The fingerprint parameters that may be tested or observed include:

- Physical state
- Physical description
- pH
- Color
- Ignitable screen (ignitibility)
- Specific gravity

The above parameters will be selected not only for the fact that they will indicate that the waste is actually what the generator claims that it is, but they will provide sufficient information about the waste so that it can be properly stored, treated and disposed of.

Pre-acceptance of a Waste Stream

For each new hazardous waste stream that is a candidate for storage at the facility, the following procedures will be followed prior to notifying a generator that a waste stream can be accepted at the Rinchem facility:

- 1) The generator will provide pertinent chemical and physical data requested on the waste profile sheet. A sample waste profile sheet is included to show the contents of the form rather than the exact format of the form. The profile includes a certification that any samples of waste submitted as part of the waste acceptance process are representative and that the generator will notify Rinchem of known changes in the waste stream.
- 2) The generator will provide pertinent chemical and physical data and certifications requested to satisfy land disposal restriction requirements in 40 CFR 268.
- 3) The data on the waste profile will be verified as necessary through HazCat, chemical fingerprint checks or detailed analysis of a representative sample of the waste.
- 4) After comparing the data supplied by the generator with that obtained by verification and assuring that our analysis contains all the information which must be known to store, treat and dispose of the waste in accordance with Parts 264 and 268, Rinchem will determine the acceptability of the waste based on the permit conditions.

Rinchem Company, Inc.

6133 Edith Blvd NE
Albuquerque, NM 87107

Waste Profile Sheet

Customer Information:

Name: _____ Phone #: _____

Facility/Plant Address: _____

Billing Address: _____

Contact Name and Title: _____ Phone #: _____

Fax #: _____

EPA ID: _____ State ID: _____ Profepa ID: _____

General Waste Information:

Waste Description: _____

Process Generating Waste: _____

General Waste Characteristics:

| Color | Odor | Phases |
|-------------------------------|-------------------------|------------------------|
| Physical State: _____ | % Liquid _____ | % Solid _____ |
| | | Inches of Solid _____ |
| | | % Sludge _____ |
| | | Inches of Sludge _____ |
| Actual pH _____ | Range from _____ | to _____ |
| Actual Specific Gravity _____ | Range from _____ | to _____ |
| Viscosity* _____ | Density* _____ | |
| Flash Point* _____ | Flashpoint Method _____ | |

Container Type: _____

Accumulation Rate:

Number of Containers _____ per: Day Week Month Year One Time Only
(circle one)

* If known

I hereby certify that all information on this and all attached documents is complete and accurate and that all known or suspected hazards, including the presence of metal objects as constituents of the waste, have been disclosed.

AUTHORIZED SIGNATURE _____

PRINT NAME _____

TITLE _____

DATE _____

CRSA USE ONLY:

Waste Stream Number: _____

Expiration Date: _____

Physical Acceptance of Waste at the Facility

Except in the case of labpacks and highly reactive wastes, upon arrival of a waste shipment at Rinchem, a determination will be made to insure that the customer did send what was profiled and accepted. First, a verification will be made that a PRE-ACCEPTANCE INSPECTION SHEET (PAIS) has been filled out for the generator's shipment of waste. An example of what a PAIS might contain is attached. Second, the manifest and LDR form will be compared with the profile (which is kept in the facility office) to make sure they match. Some of the items that will be compared include the waste description and DOT shipping information. Next, a fingerprint analysis (see the **Waste Characterization** section) will be performed which will provide reasonable assurance that the waste shipped from the generator agrees with the accompanying manifest. The results of the fingerprint testing of a given waste stream will be compared to the values obtained from previous shipments of the waste stream and the waste profile sheet and will be required to fall within an established tolerance limit.

The minimum number of containers that will be sampled from each shipment of a waste stream will be determined according to the cube root procedure, Method D 140-70, of the American Society for Testing and Materials. For a typical load, the formula provides the following:

Generator Name: _____ Manifest Doc. No.: _____
 Inspection Symbols: Acceptable (✓) Unacceptable (U) Unable to Accomplish (UA)

It is vital to be firm but very courteous when dealing with customers regarding suspected discrepancies. If they don't readily agree that changes are necessary, ask for permission to contact your supervisor. We do not reject shipments without every effort to rectify non-compliance and we do not accept shipments until they comply.

| | | | | | |
|--|--|--|--|--|----------------|
| | | | | | Initial Pickup |
| | | | | | 1st Transfer |
| | | | | | 2nd Transfer |
| | | | | | 3rd Transfer |
| | | | | | 4th Transfer |

[illegible]

| # DRUMS RECEIVED | # DRUMS SAMPLED |
|------------------|-----------------|
| 1 | 1 |
| 2-8 | 2 |
| 9-27 | 3 |
| 28-64 | 4 |
| 65-125 | 5 |

The drums to be sampled will be chosen at random by the person taking the samples. The sampling will take place in a well ventilated area of the facility such as the dock.

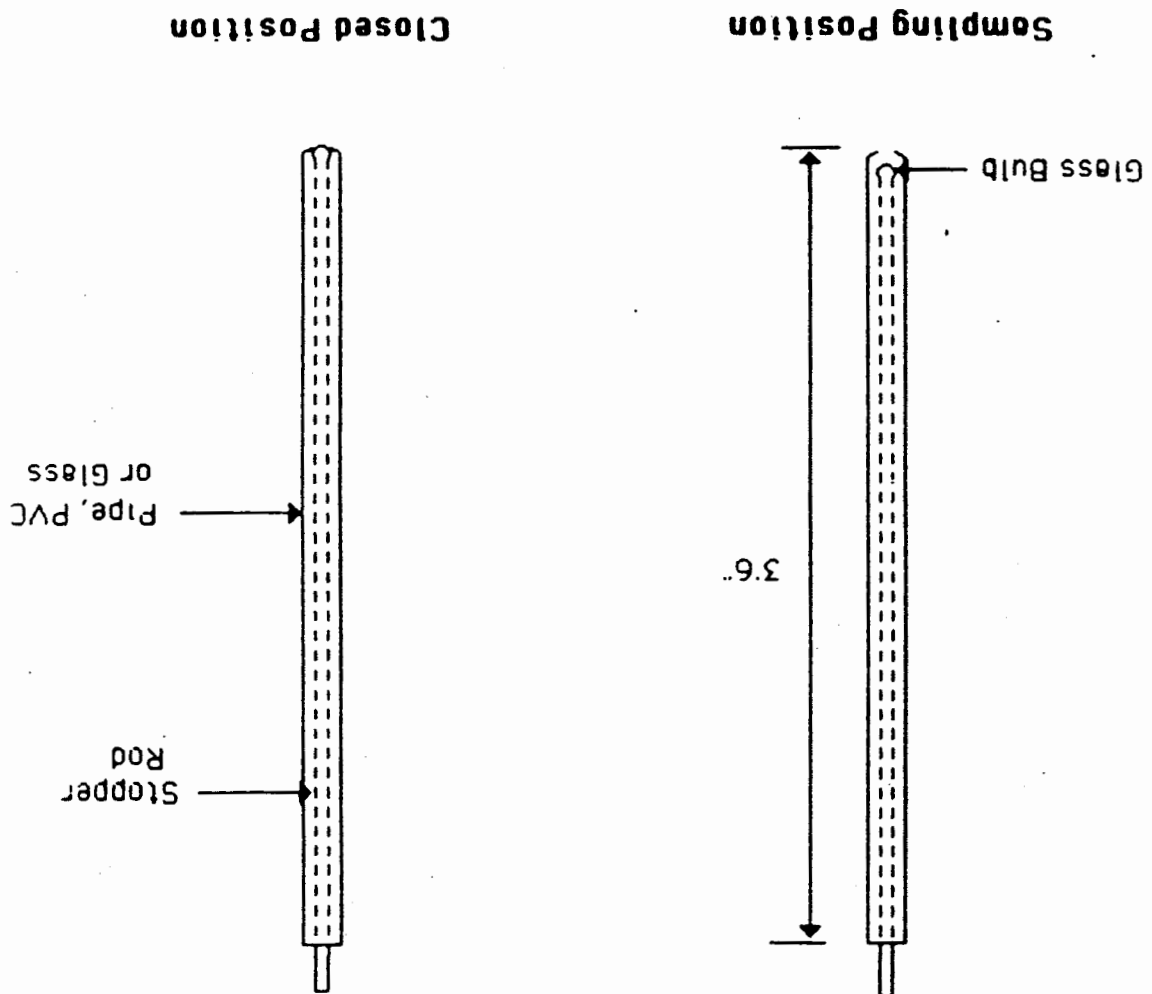
One of the methods referred to in 40 CFR 261, Appendix I, or an equivalent procedure will be used to obtain representative samples of the waste by employees wearing personal protective equipment (PPE) as described in the PREVENTATIVE MEASURES section.

Typically, the employee's PPE will include goggles or safety glasses, gloves and an apron or coveralls. Rinchem's Health and Safety Plan will be followed.

The method of sampling that will most frequently used - unless the technology changes - will be sampling of containerized liquid waste with a COLIWASA. COLIWASA stands for "containerized liquid waste sampler." See the following page for a schematic of a type of

Figure WAP-2. Schematic of a Collapsed Type Sampler

9



COLIWASA. The COLIWASA is an effective representative sampler for homogeneous and multilayer liquids. Disposable glass COLIWASAs will be used except when sampling hydrofluoric acid and strong alkali solutions - in which case a teflon one will be used. A separate will be used to sample each container.

Some of the hazardous wastes received at the facility are labpacks of small quantity chemical wastes which can be categorized into several types:

- Excess or residual reagent chemicals
- Off-specification or expired chemicals
- Relatively small quantities of chemical solutions or mixtures of known composition
- Solid waste laboratory material

In most cases, knowledge of process is sufficient to determine both the hazards associated with the handling and storage of labpack wastes and the requirements and restrictions for its disposal; therefore, analytical testing is not usually conducted on these wastes. The cube root procedure mentioned above will be used to determine the number of containers in each labpack waste stream which will be inspected for conformity of the paperwork with the container contents.

In the case of highly reactive wastes being shipped for treatment at other off-site TSDF's, the inspection process may entail no more than inspecting the container for proper packaging and labeling in order to protect the employees.

Unacceptable Waste Shipments

The Hazardous Waste Coordinator (or his designee) will qualify a waste shipment as unacceptable if any of the following conditions exist:

- Failure of the generator to pre-qualify the waste stream or provide appropriate data
- Waste shipments that contain components for which Rinchem is not permitted such as radioactive and/or explosive wastes
- Improper or inappropriate packaging, labeling, or manifesting
- Characteristic quantity or composition discrepancy between the waste and the waste manifest or profile
- Values for fingerprint analysis parameters that are out of the tolerance levels set by the Rinchem
- Lack of generator credit approval

The Hazardous Waste Coordinator (or designee) must also classify the waste as unacceptable for the Rinchem facility if it is significantly different in composition or volume from the information shown on the waste profile sheet, the pre-acceptance analysis of the representative sample, or on the manifest. Containers are counted to determine any quantity discrepancies.

Waste found to be in non-conformance may be rejected on the spot or they may be reevaluated for possible acceptance by the facility despite the variance. Rinchem's

reevaluation procedure is designed to determine whether a waste material can be handled at the facility and whether the generator concurs with the characterization conducted by Rinchem. The Hazardous Waste Coordinator evaluates the shipment according to the following criteria:

- Rinchem facility requirements
- discussions with the generator
- facility parameters for storage
- the need for additional supplemental analysis

If all of the above parameters including supplemental analysis indicate the waste can be accepted and the generator concurs, new manifests or profiles may be created as necessary to ensure compliance. If a discrepancy cannot be resolved within 10 days of the shipment receipt, the waste will be returned to the generator or the appropriate regulatory agencies will be notified, in writing, of the discrepancy and of attempts to reconcile it.

Waste Tracking

Once a waste shipment has been analyzed and accepted, the containers in the shipment will be appropriately marked so that they can be tracked within the facility. The containers will be moved to the appropriate storage area based on the hazard class and compatibility of the material as described in the PREVENTION OF ACCIDENTAL IGNITION OR REACTION

**OF IGNITABLE, REACTIVE OR INCOMPATIBLE WASTES and ADDITIONAL
CONTAINER INFORMATION sections.**

Analysis Review

The pre-acceptance evaluation of a hazardous waste stream will be repeated when a generator notifies Rinchem that the process generating the waste has changed or if Rinchem has reason to suspect that the waste is in non-conformance with available pre-acceptance documentation. In the case of a change in the process generating the waste, the generator must submit a new waste profile sheet and sample. The waste stream will also be reanalyzed if a waste shipment received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

SECURITY [40 CFR 270.14(b)(4)]

Description of 24-hour Surveillance System and/or Artificial or Natural Barriers

The Rinchem Company, Inc. facility employs a number of measures to ensure adequate security in order to assure the protection of the facility and to comply with government regulations.

The facility has an alarm system that is connected to each window and door, the fire sprinkler system, the temperature control systems and the pull stations. This monitoring system is manned 24 hours a day by an outside security company. A list of employee names and phone numbers to contact is kept at this monitoring company should an emergency occur.

The entire facility, including the outside area around the building, is maintained in a secure manner. A fence encompasses the entire facility. The fencing is constructed of 6 foot high, light gauge fabric, 2" mesh chain link fence.

All gates are maintained in a closed and locked condition during all periods of facility non-working hours. All critical locks and the alarm code are changed when a facility employee leaves the company or when a key is lost. During working hours, the gates are kept closed or are observed by facility personnel. Access through the main truck loading/unloading gate is blocked by a barrier with a sign informing the truck drivers to check in with the office

before entering. The customer service representatives seated immediately inside the office entrance door confirm identification of all visitors and the purpose of their visit. Visitors are not allowed in the warehouse without an employee accompanying them.

Description of Warning Signs

Warning signs are posted at all of the gates and several other fence locations around the facility in such a manner as to be visible from all angles of approach and bear the legend in English "Danger - Unauthorized Persons Keep Out." Warning signs in Spanish are posted next to or below the English warning signs and bear the legend "PELIGRO - Personas Sin Autorizacion NO ENTRADA." All signs are legible from a distance of 25 feet.

INSPECTION SCHEDULES [40 CFR 270.14(b)(5)]

Attached are the general inspection schedule forms that are used at the Rinchem facility. There are forms for the regular 5 day work week, quarterly, semiannual and annual schedules. The criteria to be inspected are placed on the schedule that is appropriate for the frequency of inspection to be performed. There is a section on each form for recording the date and nature of repairs performed and/or remedial action taken. The schedules are maintained and kept at the Rinchem Company, Inc. facility.

**Exhibits for Submission to NMED
With WIPP's Comments to
the November 26, 2003 Agency-
Initiated Permit Modification**

Volume 4 of 4

INDEX
***Exhibits for Submission to NMED With WIPP's Comments to
the 11/26/03 Agency-Initiated Permit Modification***

| | No. | Date | Description |
|---------------|-----|------------|---|
| Volume 1 of 4 | 1. | 9/10/99 | Report of the Hearing Officer In the Matter of the Final Permit Issued to the U.S. Department of Energy and Westinghouse Electric Company Waste Isolation Division for a Hazardous Waste Act Permit for the Waste Isolation Pilot Plant, USEPA No. NM4890139088 |
| | 2. | June 1994 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 0, Book 1 of 2, CAO-94-1005 |
| | 3. | June 1994 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 0, Book 2 of 2, CAO-94-1005 |
| | 4. | Feb. 1995 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 1, Volume 1, CAO-94-1005 |
| Volume 2 of 4 | 5. | Feb. 1995 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 1, Volume 2, CAO-94-1005 |
| Volume 3 of 4 | 6. | Feb. 1995 | Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, Revision 1, Volume 3, CAO-94-1005 |
| | 7. | June 1996 | Transuranic Waste Baseline Inventory Report, Revision 3, DOE/CAO-95-1121 |
| | 8. | 11/2/95 | Letter from B. Hoditschek of NMED to G. Dials of WIPP transmitting NMED comments on Revision 5 of the WIPP Part B RCRA Permit Application (Chapters A, B, and C), and requesting additional information |
| | 9. | 12/20/95 | Letter from M. McFadden of WIPP to B. Garcia of NMED providing responses to NMED's 11/2/95 comments on Revision 5 of the WIPP Part B RCRA Permit Application |
| | 10. | 3/14/96 | Letter from B. Garcia of NMED to G. Dials and J. Epstein of WIPP transmitting a Notice of Deficiency (NOD) regarding Revision 5.2 of WIPP's Part B RCRA Permit Application |
| | 11. | 4/12/96 | WIPP's responses to NMED's 3/14/96 NOD, hand delivered to B. Garcia of NMED on 4/12/96 |
| | 12. | 3/19/99 | Verbal hearing testimony of NMED's technical expert Constance Marie Walker during WIPP's 1999 RCRA Permit hearing, transcript pages 2717 - 2719 |
| | 13. | 6/25/99 | Summary of May 15, 1998 Draft Permit Public Comments and Responses to Comments by NMED, Module II.C, NMED response to Comment N-46, as reviewed by "CMW" |
| | 14. | 3/23/99 | NMED's Direct Testimony Regarding Regulatory Process and Imposed Conditions |
| | 15. | Jan. 2004 | NMED Green Gazette Newsletter, Volume I, Issue 1, Winter 2004 |
| | 16. | 1/9/04 | Request for Class 3 Permit Modification to the Hazardous Waste Facility Permit, Permit Number NM4890139088-TSDF, Implementing Section 311 of Public Law 108-137, transmittal letter from I. Triay and S. Warren of WIPP to S. Zappe of NMED |
| | 17. | 6/27/02 | WIPP Class 2 Permit Modification Request, Waste Characterization Updates and Other Process Improvements, Add U134 as a New Hazardous Waste Number, transmittal letter from I. Triay and J. Lee of WIPP to S. Zappe of NMED |
| | 18. | 11/25/02 | Letter from G. Lewis of NMED to I. Triay of WIPP approving 6/27/02 Class 2 PMR to add U134 as a new hazardous waste number |
| | 19. | Dec. 2001 | Rinchem Company, Inc., Albuquerque, NM - Final RCRA Operating Permit |
| | 20. | 12/2/97 | Rinchem Company, Inc., Albuquerque, NM - NMED request for supplementary information regarding Rinchem's Waste Analysis Plan in the Permit Application |
| | 21. | 4/24/96 | Rinchem Company, Inc., Albuquerque, NM - NMED Notice of Deficiency regarding February 1995 Permit Application |
| | 22. | 2/7/95 | Rinchem Company, Inc., Albuquerque, NM - RCRA Permit Application |
| | 23. | Sept. 2003 | Safety-Kleen, Albuquerque, NM - Final RCRA Operating Permit |

| | No. | Date | Description |
|---------------|-----|------------|--|
| Volume 4 of 4 | 24. | 11/15/02 | Safety-Kleen, Albuquerque, NM - NMED NOD regarding 7/27/01 Permit Application |
| | 25. | 3/9/03 | Safety-Kleen, Albuquerque, NM - responses to NMED's 11/15/02 NOD |
| | 26. | 1/27/01 | Safety-Kleen, Albuquerque, NM - RCRA Permit Application |
| | 27. | Sept. 2003 | Safety-Kleen, Farmington, NM - Final RCRA Operating Permit |
| | 28. | 11/15/02 | Safety-Kleen, Farmington, NM - NMED NOD regarding the 10/4/00 Permit Application |
| | 29. | 3/9/03 | Safety-Kleen, Farmington, NM - response to NMED's 11/15/02 NOD |
| | 30. | 10/4/00 | Safety-Kleen, Farmington, NM - RCRA Permit Application |
| | 31. | Mach 2002 | Gandy Marley, Inc. Triassic Park Waste Disposal Facility, Chavez County, NM, RCRA Operating Permit |
| | 32. | 6/11/99 | Fax from P. Corser of Montgomery Watson to G. Starkebaum of TechLaw, re: Preliminary Draft of Gandy Marley, Inc. Response to Request for Supplemental Information - May 1999 |
| | 33. | 6/10/99 | Letter from J. Bearzi of NMED to L. Gandy of Triassic Park, re: Draft Responses to Request for Supplemental Information |
| | 34. | 5/5/00 | Letter from S. Kruse of NMED to R. Davis of State Fire Marshal's Office, re: Proposed Hazardous Waste Landfill |
| | 35. | March 1988 | "Hazardous Waste Storage and Disposal in Geologic Repositories - Permit Guidance Under the Resource Conservation and Recovery Act, OSWER Directive 9523.00-1", U.S. EPA |
| | 36. | 10/17/01 | Verbal hearing testimony of NMED's technical expert Constance Marie Walker during Triassic Park's RCRA Permit hearing, transcript pages 857-859 |
| | 37. | 10/19/01 | Hearing Officer's Report, In the Matter of the Draft Final Permit for the Triassic Disposal Facility U.S. EPA No. NM0001022484, pages 97 - 98 |
| | 38. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Table of Contents and Cross-Reference Table |
| | 39. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Chapter A (incl. Part A Permit Application Form Revision 7) |
| | 40. | 4/12/96 | WIPP RCRA Permit Application, Revision 6 - Chapter B |



GARY E. JOHNSON
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Telephone (505) 428-2500
Fax (505) 428-2567
www.nmenv.state.nm.us



JOHN R. D'ANTONIO, Jr.
SECRETARY

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

November 15, 2002

Mr. David Ashley
EHS Manager
Safety-Kleen Corp.
6625 W. Frye Road
Chandler, Arizona 85226

RE: NOTICE OF DEFICIENCY (NOD)
SAFETY-KLEEN SYSTEMS, INC. STORAGE FACILITY RCRA PERMIT
APPLICATION, FARMINGTON FACILITY EPA ID NMD980698849
HWB-SKFA-00-001 AND
SAFETY-KLEEN SYSTEMS, INC. STORAGE FACILITY RCRA PERMIT
APPLICATION, ALBUQUERQUE FACILITY EPA ID NMD000804294
HWB-SKAL-02-001

Dear Mr. Ashley:


After substantial review of the Safety-Kleen Farmington's (SKFA), October 4, 2000 permit application, Attachment A, *Waste Analysis Plan* (WAP) and the 2000 permit application Part A, Section 1.0, Attachments C, D and E, the existing SKFA operating permit dated April 4, 1991, and the August 20, 2002 draft permit wastes characterization requirements, NMED has made a determination that additional information is required prior to granting administrative completeness pursuant to 20.4.2.200 NMAC (A) (3) (a) and (b). The NMED comments are attached.

Please respond to this Notice of Deficiency within sixty (60) days of receipt of this letter.

Should you have any questions please contact Mr. Steve Pullen of my staff at (505) 428-2544.

Mr. David Ashley
November 15, 2002
Page 2

Sincerely,


James Bearzi
Chief
Hazardous Waste Bureau

cc: John Kieling, NMED HWB
Will Moats, NMED HWB
Robert Warder, PE, NMED HWB
Laurie King, EPA Region 6 (6PD-N)

File: Red SKFA 00-001, Reading File
Red SKAL 02-001, Reading File

NOTICE OF DEFICIENCY COMMENTS
SAFETY KLEEN – FARMINGTON and ALBUQUERQUE

Regulatory citations in these comments only reference the applicable Code of Federal Regulations (CFR) requirements without including the associated New Mexico regulation for brevity.

NMED expects a response to each of these comments and altered permit application language where appropriate. The responses to these comments should be included in both the Safety-Kleen Albuquerque (SKAL) and SKFA permit application waste analysis plans since the WAP's are essentially identical and by doing so, will prevent an additional NOD being submitted for the SKAL facility.

General SKFA WAP Comments:

1. The WAP fails to identify the specific waste characterization regulations that must be addressed before wastes can be managed at the facility. NMED requires that Safety-Kleen address, at a minimum, the data quality objectives (DQOs) identified at Appendix I at the back of these comments. All appropriate DQOs are to be identified in the Introduction portion of the WAP. The WAP must also be augmented to include a discussion of how Safety-Kleen personnel will perform a QA/QC analysis to ensure that all waste characterization has met the DQOs.
2. The Safety-Kleen Farmington facility permit application fails to address all applicable land disposal restriction (LDR) regulatory requirements. Safety-Kleen must specify in the WAP how it will both accomplish these activities, and document these determinations as required by 20.4.1.800 NMAC (incorporating 40 CFR 268.7 (a) (6)), 20.4.1.300 NMAC (incorporating 40 CFR 262.10 (h) and 40 CFR 262.40 (c)). Safety-Kleen must specifically commit to ensuring that all hazardous wastes stored at the facility are characterized for all applicable LDR notification requirements as identified below;
 - a. Identify all hazardous constituents in prohibited hazardous wastes requiring treatment as required by 20.4.1.800 NMAC (incorporating 40 CFR 268.7 (a), 40 CFR 268.40 (a) (1) and (2)), including both the constituents associated with each waste listed in 40 CFR 268.40 as "regulated hazardous constituents", and all underlying hazardous constituents (UHCs) in characteristic hazardous wastes as required by 40 CFR 268.9 (a);
 - b. Identify applicable "waste code subcategories" as identified in Column 2 of the "Treatment Standards for Hazardous Wastes" table located in 40 CFR 268.40, as required by 40 CFR 268.7 (a), and as referenced in the Required Information

Column, Item No. 4, of the "Generator Paperwork Requirements Table" located in 40 CFR 268.7 (a);

- c. Identify the waste's applicable "treatability group" (i.e., wastewater or non-wastewater) as identified in Column 2 of the "Treatment Standards for Hazardous Wastes" table located in 40 CFR 268.40, and the "Universal Treatment Standards" table located in 40 CFR 268.48, and as required by 40 CFR 268.7 (a), as referenced in Column 1. Item No. 4, of the "Generator Paperwork Requirements" located in 40 CFR 268.7 (a), and as defined in 40 CFR 268.2 (d) and (f); and
- d. Identify whether the waste must be treated before it can be land disposed as required by 40 CFR 268.7 (a). To accomplish this, Safety-Kleen shall identify the applicable constituent concentration or technology based treatment standards for the wastes and/or the individual hazardous constituents as identified in the "Treatment Standards for Hazardous Wastes" table located in 40 CFR 268.40.

These requirements apply to all wastes managed at Safety-Kleen regardless of how long the wastes are stored, including wastes stored under a transfer basis.

3. NMED can find no commitment in the application to store prohibited wastes for less the one-year as required by 40 CFR 268.50. The application/WAP shall be altered accordingly.
4. The permit application fails to discuss whether any of the waste management activities performed by Safety-Kleen at both the facilities, would constitute the generation of a new waste or require a new manifest. The New Mexico Environment Department questions whether the aggregation of wastes with different LDR statuses is occurring at Safety-Kleen. Generator status determination in this circumstance depends primarily on the establishment of a waste's "point of generation". The definition of what the "point of generation" is and its implications are described in EPA's guidance manual, *Land Disposal Restrictions: Summary of Requirements*, dated August 2001 (EPA 2001). EPA 2001, Section 8.2 states, "for characteristic wastes, each change in treatability group constitutes a new point of generation". The permit application states in Section A.1.1, Paragraph 1, Item c, *Drum Washer/Dumpster Sediment*, that, "the chemical composition of this waste is very similar to that of the bottom sediment from the tank and therefore, carries the same EPA hazardous waste codes". The application fails to mention the possibility here or anywhere else of a change in LDR treatability groups and a resultant new waste.

Safety-Kleen shall explain the following;

- a. Whether the commingling or aggregation of wastes with different LDR statuses would constitute the generation of a new waste; and
- b. Whether segregating the sediments referenced in Section A.1.1 would constitute the generation of a new waste due a change in treatability group (referenced above).

The issue is relevant to waste characterization because the generator of a waste must create a manifest in accordance with 40 CFR 262 and perform a LDR status determination at the point of generation (POG) in accordance with 40 CFR 268.7.

5. The WAP suggests that a laboratory analysis was performed only four times on Safety-Kleen wastes in the period between 1997 and 1999 (i.e., four different waste streams were analyzed once). This information was gleaned from WAP Section A.2, which proposes to perform no analytical waste characterization at the point of generation because "the composition and quality of these materials are known and Safety-Kleen's operating experiences have shown that the collected materials rarely deviate from company specifications". This Section also proposes no verification characterization will be performed at the Farmington facility because "with such large numbers of waste generators and waste shipments, performing detailed analyses at the service center is economically and logistically infeasible." Annual characterization data from Attachment A-1 demonstrates four laboratory analyses. Safety-Kleen shall explain whether this observation is accurate.
6. In general, NMED considers the waste characterization commitments in the Albuquerque Safety-Kleen facility (SKAL) permit application, dated July 27, 2001, to be more detailed and thus preferable. Specific examples are provided below.
7. The WAP fails to recognize that before wastes are stored they must be characterized as to whether they are authorized wastes (i.e., included in the Part A portion of the permit application or not otherwise prohibited by the permit).
8. Safety-Kleen shall submit a copy of applicable Safety-Kleen Standard Operating Procedures (SOPs) as related to the characterization and sampling of hazardous wastes.

SKFA WAP Section Specific Comments:

1. Section A.1 - The second sentence inaccurately states that the specifications for SKFA's "products" are provided in Attachment A.1. Please explain how the table of annually waste stream characterization relates to SKFA product. NMED is interested in product characterization due to its association with related wastes. (See SKFA WAP Section Specific Comment 5.c).

2. Section A.1 - The second sentence references the table in Attachment A.1. Is this table representative of SKFA's documentation in response to the existing annual waste characterization permit requirement found in Permit Conditions II.C and Attachment A, Section A.3? If so, please explain why the table does not provide waste characterization information for wastes resulting from the dry cleaner service for SKFA.
3. Section A.1 - The second sentence references the tables in Attachment A.1. There are few other references to the tables in the text portion of the WAP. Safety-Kleen shall elaborate on the purpose of the tables. At a minimum, Safety-Kleen must answer the following questions;
 - a. Is the Attachment meant as an example of the data needed to fulfill the following requirements;
 - i. to repeat initial analysis of wastes to ensure that the analysis is accurate and up to date as required by 40 CFR 264.13 (b) (4); and
 - ii. SKFA Operating Permit Condition II.C, together with the Waste Analysis Plan (Permit Attachment A), Section A.3, commit to analyzing each waste type "at least once each calendar year".
 - b. Is Attachment A.1 meant to identify all applicable parameters to be analyzed for each hazardous waste as required by 40 CFR 264.13 (b) (1)? Is there a reason why this analysis data does not include other possible hazardous constituents as referenced at 40 CFR 268.40 (a)?
 - c. The WAP states that the Attachment data represents the "specifications for the products". It is NMED's understanding that the data represents constituent concentrations before the reclamation process. SKFA must provide a complete chemical description of all products resulting in wastes stored at the facility, including a description in chemical variability.
 - d. The tables demonstrate that for a particular waste type (e.g., waste aqueous cleaners), wastes from different SK service centers during a particular period of time (e.g., 1998-1999) had widely ranging hazardous characteristic constituent and other physical property values. Is SKFA implying that all wastes with hazardous characteristic constituent and other physical property values that fall within the maximum and minimum values presented on the Tables are the same wastes and can be aggregated or consolidated without requiring a new manifest?

- e. The tables all include a value for the 90th percentile of the upper confidence limit (UCL) for the 50th percentile. The WAP does not explain what this data is used for. SW-846 Chapter 9, Section 9.1.1.1 discusses the use of UCLs to evaluate the degree of sampling accuracy and precision of multiple samples of a single waste stream to determine whether it is hazardous. The tables represent numerous waste streams and thus are something very different than what is discussed in SW-846. SKFA must clarify.
- f. Safety-Kleen must explain the significance of the table notation "non-detect" (ND) when the detection limit of the analysis was significantly higher than the regulatory limit. The inappropriate ND occurs on numerous tables but is a particular problem on the table for waste dry cleaner bottoms – semi-volatile analysis. Safety-Kleen must explain why NMED should not make it a permit requirement that all analysis be performed to ensure that the method detection limit (MDL) be below the applicable regulatory limit, or that Safety-Kleen be required to record one-half the MDL instead of ND.
- g. Safety-Kleen must explain whether the "site" column necessarily indicates the Safety-Kleen service centers that shipped wastes to a recycling center and the number of shipments in a particular period (i.e., did SKFA not ship any dry cleaner, paint, or photographic wastes during the referenced periods?). Section A.1.1 (a) suggests that spent solvent is removed from the storage tank on a monthly basis yet this is not reflected in the table.
- h. The tables reference the following 11 different wastes;
 - i. Waste aqueous cleaners
 - ii. Waste dry cleaner filter powder
 - iii. Waste dry cleaner bottoms
 - iv. Waste immersion cleaner
 - v. Paint waste (other)
 - vi. Waste paint gun cleaner
 - vii. Waste parts washer solvent (105)
 - viii. Waste parts washer solvent (105/150)
 - ix. Waste premium gold parts washer solvent (150)
 - x. Waste parts washer sludge
 - xi. Waste parts washer tank bottoms

Safety-Kleen must explain why all of these wastes are not referenced in the Section A.1 of the WAP.

- 9. Section A.1.1 - The section in general describes wastes resulting from the parts washer service and applies characteristic waste codes to all the wastes but does not apply any of

the listed waste codes to the wastes. Attachment A.1 demonstrates that the wastes contain significant concentrations of trichloroethylene, tetrachloroethylene, and methyl ethyl ketone. These chemicals are all solvents in F001, F002 or F005 wastes. Safety-Kleen shall explain why the wastes resulting from parts washer service are not described as carrying a "F" code as the dry cleaner and paint wastes do. Furthermore, Safety-Kleen must explain why NMED should not require through the permit that wastes resulting from the parts washer service (see Section A.1.1) be analyzed on a periodic basis for the presence of all constituents of concern in the F001-F005 listed wastes referenced at 40 CFR 268.48.

10. Section A.1.2 - Paragraph 1, last sentence, states, "... other types of dry cleaning waste (e.g., freon) will be managed on a transfer basis only". Section A.5.c states that "unique or non-standard waste streams" will also be managed on a "transfer basis" only. Section A.7 states that for waste "managed on a transfer basis, the Subpart CC regulations do not apply". Safety-Kleen shall thoroughly explain why NMED should not require, through the permit, that all waste managed at the facility be managed subject to the requirements of 40 CFR Parts 264, 268 and 270 as is required by 40 CFR 262.34 (b) of any generator who accumulates hazardous waste for more than 90 days.
11. Section A.1.2 - Paragraph 2, Sentence 1, refers to the distillation of wastes from dry cleaner service. Safety-Kleen shall specify where this distillation process occurs. The WAP implies distillation may be happening at the generator locations or the Farmington service center. If the distillation process is occurring at either of these locations, Safety-Kleen must explain whether the distillation process is a materials recovery process meeting the definition of treatment provided at 40 CFR 260.10, and thus requiring a permit.
12. Section A.1.4 - This section references three photographic/imaging wastes, yet implies that none of them can be considered a hazardous waste. Safety-Kleen shall significantly elaborate on the regulatory status of these wastes. Sentence 1 states, "some photographic imaging wastes managed at the facility are not solid wastes per 40 CFR 261.2 (c) because their hazardous constituent is reclaimed." Is Safety-Kleen referencing this regulation in relation to the photo fixer solution from which silver may be recovered?

NMED understands that the U.S. EPA has made solid waste determinations on a material-by-material basis (See RCRA Regulations and Keyword Index, 2000 Edition, published by Aspen Law and Business (Aspen 2000) and the RCRA Hotline Question and Answer #54 (RCRA-54)). Safety-Kleen shall provide these EPA determinations.

13. NMED feels that it may be appropriate to identify wastes in the permit that are not subject to the permit, but to be consistent, all such wastes must be identified. Please provide a list of all materials (non-products) stored at the facility that might be considered

by an inspector to be hazardous waste subject to the permit and that Safety-Kleen feels are not subject to 40 CFR Parts 264, 268 and 270 permitting conditions. Furthermore, because the photo fixer solution which would normally carry a D011 waste code is obviously prohibited from land disposal under the LDRs, the off-site shipment of this waste must be accompanied by a LDR notification form as required by 40 CFR 268.7 (a) (1). That notice shall include the following information (see RCRA-126);

- a. EPA Hazardous Waste Number (waste code);
 - b. The hazardous constituents and their corresponding treatment standards and all other applicable prohibitions set forth in 40 CFR 268.32;
 - c. The manifest number associated with the shipment of the waste; and
 - d. Waste analysis data where available.
14. Section A.2 - Paragraph 3, last sentence, states, "... procedures to verify waste characteristics occur at several check points in the management of the solvent". The WAP identifies three checkpoints; the QC procedures performed when Safety-Kleen services its clients, when the wastes are transferred into the storage tank, and the annual characterization performed at the reclamation center. If Safety-Kleen has additional procedures to verify waste characteristics they must be elaborated on in the WAP.
15. Section A.2 - Paragraph 3, first sentence, references HWMR 206.B.3 inappropriately. NMED believes the appropriate and applicable regulation is 20.4.1.500 NMAC (incorporating 40 CFR 264.13 (a) (3) (i)).
16. Section A.2 - The SKAL permit application contains the following commitments that shall be included in the SKFA application, or provide a reason as to why they/it should not be included:
- a. Questionable wastes received at the service center shall be analyzed before they leave the facility;
 - b. The Branch Manager will be notified of any contamination that may have occurred. Furthermore, NMED requires through its omnibus authority specified in 20.4.1.900 NMAC (incorporating 40 CFR 270.32 (b) (2)) that Safety-Kleen commit in its WAP, to notifying the Hazardous Waste Bureau (HWB), Enforcement Program Manager of any contamination that may have occurred;
 - c. Training commitments; and

d. The procedures for wastes rejected at the time of service.

17. Section A.2 - The section implies that waste characterization will primarily be through acceptable knowledge (AK). Acceptable knowledge is defined in EPA guidance, "Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Waste" dated April 1994, as process knowledge and prior sampling data performed before the effective date of RCRA regulations. Current sampling and analysis is the preferred method, and the Permittee shall obtain characterization by sampling and analysis whenever feasible.

Acceptable knowledge may be used as the sole method to characterize waste only when the waste is from processes that are well documented with supporting information that address all characterization requirements of the permit, including the requirement to determine the LDR status of the waste as well as the other DQOs referenced at General Comment #1. Safety-Kleen shall maintain written documentation supporting the use of AK for each waste stream. SKFA shall include in the record all specific AK documentation assembled and used in the AK process, whether or not it supports the decision to use AK.

18. Section A.2.1 - Paragraph 2 states that as part of the QC procedures, a Safety-Kleen sales representative makes a visual examination of the wastes prior to recovery. Safety-Kleen must commit in Section A.6 of the WAP, to include a record of each of these QC examinations in both SKFA's and SKAL's operating record.
19. Section A.2.1.c - Safety-Kleen must elaborate on the sampling technique(s) used to determine whether the contents of a waste drum deviate from the description in the section. Safety-Kleen shall also describe the sampling techniques used to characterize waste at the service center as referenced in last paragraph of Section A.2.1.c.
20. Section A.2.3 - This section addresses paint waste but makes no mention of waste abrasive blasting media used to remove paint. This is generally a waste stream created at paint shops that is generally characteristically hazardous for metals. Does Safety-Kleen manage abrasive blasting media?
21. Section A.3 - This section shall be amended with a description of the quality assurance procedures to be used when performing laboratory analyses (e.g., equipment calibration and maintenance, data reduction and validation, and records management). The section must also be amended with a commitment to ensure those procedures are adhered to and documented in the both the SKFA and SKAL operating record.
22. Section A.3, Table A-1 - Table A-1 inappropriately lists "TCLP" as a parameter (the parameter is toxicity characteristic, TCLP is a sample preparation method) and fails to

address paint and photo chemical wastes. The SKAL permit application Section A.3 has a preferable discussion of waste parameters.

23. Section A.3, Table A-1 - Table A-1 must be augmented with a parameter and its associated rationale regarding the determination of a waste's LDR status. In fact, "determination of a waste's LDR status" can be the rationale and "hazardous constituent concentration" might be the parameter. Safety-Kleen shall alter other tables accordingly.
24. Section A.3, Table A-2 - Table A-2 must clarify that TCLP is simply a sample preparation method (which is not necessary when a waste is in liquid form). To determine a waste's toxicity characteristic, it may be necessary to first perform a leaching procedure (TCLP) and then perform a total analysis. The table should also identify the test method(s) Safety-Kleen will use to measure inorganic constituents in a waste.
25. Section A.3, Table A-3 - Table A-3 references U.S. EPA's *Test Methods for the Evaluation of Solid Waste Physical/Chemical Methods*, SW846, Section 1.2.1.1. The current on-line version of SW846 available at <http://www.epa.gov/epaoswer/hazwaste/test/main.htm>, is not organized with sample collection methodologies at Section 1.2.1.1. Please reference the appropriate section of the on-line version. Furthermore, SW846 does say at Section 3.3.4, *Sample Collection*, that "The procedures describing how the sampling operations are actually performed in the field should be specified. A simple reference to standard methods is not sufficient, unless a procedure is performed exactly as described in the published method." Safety-Kleen shall amend the WAP accordingly.
26. Section A.3, Table A-3 - Table A-3 states that the sampling device to be used for solvent tank bottoms is the same device to be used for spent solvents. This device is the Copliwasa tube. SW846 Chapter 9, Section 9.2.2.3, states, "... the Coliwasa is a device employed to sample free-flowing liquids and slurries ...". Safety-Kleen shall explain how effective the Coliwasa is at sampling tank bottoms.
27. Section A.3, Table A-4 - Table A-4 states that the frequency of analysis for all wastes will be "at least annually". The SKAL permit application WAP, Section A.3.1, and the SKFA current operating permit WAP, commit to performing an abbreviated analysis on "every load received at the recycle center". If this is in fact standard Safety-Kleen procedure, it shall be referenced in the SKAL and SKFA WAPs.
28. Section A.4 - The section must recognize and reference the permit modification procedures at 20.4.1.900 NMAC (incorporating 40 CFR 270.42), *Permit modification at the request of the Permittee*.

29. Section A.5 - The section fails to address all applicable LDR notification requirements. Safety-Kleen must specifically commit to ensuring that all hazardous wastes stored at the facility, regardless of where the wastes are generated, are characterized for all applicable LDR notification requirements as identified at General Comment #2.
30. Section A.5 - The section shall be augmented to commit to maintaining in the SKFA and SKAL operating records, a copy of all LDR status notifications, including those for wastes generated onsite and for wastes received from off-site generators, as required by 40 CFR 264.73 (15) and (16). Additionally, please explain what is meant by the term "receiving facility" as used in the last paragraph of Section A.5.
31. Section A.5.b - NMED is unfamiliar with the waste type abbreviations "MS" and "IC". Please elaborate in the WAP.
32. Section A.6 - The section lists information to be kept in the facility operating record including numerous inappropriately listed non-waste characterization items that are not referenced elsewhere in the application. Safety-Kleen must relocate this information in a more appropriate location within the SKAL and SKFA applications.
33. Section A.6, Item 1 - The section inappropriately references a regulation as "Pt. V. sec.264, Appendix I". NMED believes the appropriate reference should be 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Appendix I). That regulation (which is applicable to SKFA and SKAL) requires, in part, the inclusion of a description of the process that produces a waste. NMED requires Safety-Kleen to include in its application a commitment to characterize the waste generating process as outlined at Appendix II.
34. Section A.6, Item 10 - The section references where LDR notifications are maintained. Safety-Kleen shall clarify the phrase "resource recovery (May 1994) branch manager's office". NMED requires that the LDR records be kept at the facility for inspection purposes.
35. Section A.7 - The section is titled "Waste Determination for Subpart BB and CC Compliance" but does not address characterizing wastes for their Subpart BB applicability by measuring their total organic concentration by weight. Safety-Kleen must amend the SKAL and SKFA WAPs accordingly.

Appendix I

Data Quality Objectives (DQOs)

Waste characterization data obtained through WAP implementation shall be used to ensure that the Permittee meets regulatory obligations at permitted hazardous waste storage units. A portion of the DQOs that shall be met for all waste characterization will be to comply with the following applicable Resource Conservation and Recovery Act (RCRA) regulatory requirements:

1. To determine all information which must be known to treat, store and dispose of the wastes in accordance with New Mexico's Hazardous Waste Regulations, 40 CFR 264.13 (a) (1);
2. To determine if the waste is hazardous 40 CFR 262.10 (c) and 40 CFR 262.11;
3. To ascertain the hazardous constituents in a waste stream to identify all applicable hazardous waste codes and all underlying hazardous constituents in accordance with 40 CFR 262.11, 40 CFR 268.7 (a) (2), and 40 CFR 268.9 (a);
4. To ascertain whether the waste must be treated before it can be land disposed in accordance with 40 CFR 268.7 and 40 CFR 268.9;
5. To ascertain whether a routine waste generating process has changed sufficiently to create a new waste stream and alternative regulatory requirements pursuant to 40 CFR 264.13 (a) (3) (i), 40 CFR 268.7 (a) (3) (iii), and 40 CFR 268.7 (b) (3) (ii));
6. To facilitate appropriate waste packaging for transportation in accordance with 40 CFR 262.10 (h);
7. To ascertain the presence and concentration of wastes constituents that might cause unlawful air emissions in accordance with 40 CFR 270.25 (a), 40 CFR 264.179, 40 CFR 264.200, 40 CFR 264.13 (b) (6), 40 CFR 264.601 (c) (1), 40 CFR 264.1050, and 40 CFR 264.1082;
8. To ensure that wastes are not inappropriately diluted to avoid LDR treatment requirements in accordance with 40 CFR 268.3;
9. To determine the presence of prohibited materials in accordance with 40 CFR 268.50 (f);
10. To determine the presence of free liquids in wastes in accordance with 40 CFR 270.15 (b) (1), 40 CFR 264.13 (b) (6);

11. To ascertain waste/waste and waste/container compatibility characteristics in accordance with 40 CFR 270.15, 40 CFR 270.16, 40 CFR 264.172, 40 CFR 264.177, and 40 CFR 264.199; and
12. To ascertain waste ignitability and reactivity characteristics in accordance with 40 CFR 270.16 (j), 40 CFR 264.17 (a), and 40 CFR 264.198 (a).

Appendix II

Waste Process Information

The Permittee shall obtain process knowledge documentation from the generator that is explicitly relevant and traceable to each waste stream. The following information presents process knowledge the Permittee are required to obtain:

1. Area(s) and/or building(s) from which the waste stream was or is generated;
2. Waste stream volume and time period of generation;
3. Description of waste generating process; and
4. Material inputs or other information that identifies the chemical content of the waste stream and the physical waste form.

SKFA 2003



OVERNIGHT DELIVERY
RETURN RECEIPT REQUESTED



March 9, 2003

Mr. Steve Pullen
Permits Management Program
State of New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Re: Notices of Deficiency (NOD) for Safety-Kleen Farmington and Safety-Kleen Albuquerque Facilities

Dear Mr. Pullen:

Safety-Kleen Systems, Inc. (S-K) operates service centers in Farmington, New Mexico (4210A Hawkins Road) and Albuquerque (2720 Girard NE) for temporary accumulation and storage of hazardous wastes, prior to transporting offsite for reclamation, treatment or disposal. RCRA Permit Renewal Applications were submitted to the New Mexico Environment Department/Hazardous Waste Bureau (NMED/HWB).

In a letter (Notice of Deficiency) dated November 15, 2002, NMED/HWB required additional information. A response to the NMED/HWB NOD and the required information is provided with this correspondence. Each of the NMED/HWB items is summarized below for convenience. A response providing the supplemental information follows each of the NMED requests.

NMED/HWB (SKFA Specific) Item No. 1.

Section A.1 – The second sentence inaccurately states that the specifications for SKFA's "products" are provided in Attachment A.1.

S-K Response No. 1.

The omission of information about Safety-Kleen products was an oversight. Please find enclosed, MSDSs for the relevant Safety-Kleen parts washer service and paint service products. These MSDSs include more information than required by OSHA (40 CFR 1910.1200).

NMED/HWB (SKFA Specific) Item No. 2.

Section A.1 – The table referenced in Attachment A.1 does not include waste characterization information for wastes resulting from the dry cleaner service for SKFA.

S-K Response No. 2.

It appears to have been an administrative omission, not to include dry cleaner waste characterization data. Please find attached the most recent full waste characterization package with summary tables including dry cleaner data.



NMED/HWB (SKFA Specific) Item No. 3.

Section A.1 – Safety-Kleen must answer the following questions;

- a. Is the attachment meant as an example needed to fulfill the following requirements:
 - i. To repeat analysis to ensure that the analysis is accurate and up to date as required by 40 CFR 264.13(b)(4); and
 - ii. SKFA Operating Permit Condition II.C together with the Waste Analysis Plan (Permit Attachment A), commitment to analyzing each waste type "at least once per year?
- b. Is Attachment A.1 meant to identify all applicable parameters to be analyzed for each hazardous waste as required by 40 CFR 264.13(b)(1)? Is there a reason why this analysis data does not include other possible hazardous constituents as referenced at 40 CFR 268.40(a)?
- c. SKFA must provide a complete chemical description of all products resulting in wastes stored at the facility, including a description in chemical variability.
- d. The tables demonstrate that for a particular waste type, wastes from different SK service centers had widely ranging hazardous characteristic constituent and other physical property values. Is Safety-Kleen implying that all wastes with hazardous characteristic constituent physical property values that fall within the maximum and minimum values represented in the Tables are the same wastes and can be aggregated or consolidated without requiring a new manifest?
- e. The tables all include a value for the 90th percentile of the upper confidence limit (UCL) for the 50th percentile. SW-846 Chapter 9, Section 9.1.1.1 discusses the use of UCLs to evaluate the degree of sampling accuracy and precision of multiple samples of a single waste stream to determine whether it is hazardous. The tables represent numerous waste streams and thus are something very different than what is discussed in SW-846. SKFA must clarify.
- f. Safety-Kleen must explain the significance of the table notation "non-detect" (ND) when the detection limit of the analysis is significantly higher than the regulatory limit. The inappropriate ND occurs on numerous tables but is a particular problem for waste dry cleaner bottoms – semi-volatile analysis. Safety-Kleen must explain why NMED should not make it a permit requirement that all analysis be performed to ensure that the method detection limit (MDL) be below the applicable regulatory limit, or that Safety-Kleen be required to record one-half the MDL instead of ND.
- g. Safety-Kleen must explain whether the "site" column necessarily indicates the safety-Kleen service centers that shipped wastes to a recycling center and the number of shipments in a particular period.
- h. The tables reference the following 11 different wastes;
 - i. Waste aqueous cleaners
 - ii. Waste dry cleaner filter powder
 - iii. Waste dry cleaner bottoms
 - iv. Waste immersion cleaner
 - v. Paint waste (other)
 - vi. Waste paint gun cleaner
 - vii. Waste parts washer solvent (105)
 - viii. Waste parts washer solvent (150)
 - ix. Waste premium gold parts washer solvent (150)
 - x. Waste parts washer sludge
 - xi. waste parts washer tank bottoms.

Safety-Kleen must explain why all these wastes are not referenced in section A.1 of the WAP.

S-K Response No. 3.

- a.
 - i. This attachment represents the sampling done in one year to represent waste managed by Safety-Kleen throughout the year. This process is performed to characterize waste managed by Safety-Kleen. When significant process changes occur, analysis will be performed to recharacterize the waste.
 - ii. Safety-Kleen characterizes its wastes at least annually. The attachment represents one year's data. This process is completed each year to on waste streams managed by Safety-Kleen.
- b. The purpose of the attachment is to summarize the data collected to characterize Safety-Kleen's wastes and indicate the waste codes that characterization indicates are appropriate for the waste stream. During the process of characterizing the waste streams, hazardous constituents are also revealed. Hazardous constituents that are expected to occur in the waste streams, based on the same laboratory analyses as the characterization, are then reflected in the Land Disposal Restriction Notifications (LDRs).
- c. It was an error to indicate that waste characterization represents product specification. Please find attached, MSDSs for the relevant Safety-Kleen products. These MSDSs contain information beyond that required by OSHA.
- d. The attachment is not meant to imply that wastes from various sources with varying chemical and physical properties may be aggregated or consolidated without requiring a new manifest. The attachment identifies waste generated with essentially similar raw materials in essentially similar processes. The attachment indicates that there is some variability in the waste generated based on the operator of the process. For example (page 88 of the attached annual characterization package, samples 2015441 and 2015462), an operator in Albuquerque, NM might have used their parts washer more than a operator in Omaha, NE. By using the parts washer more, more oil and grease was added, raising the flash point. In the same example, the operator in Omaha may have cleaned a carburetor in the parts washer, introducing gasoline and thus, benzene. Regardless of day-to-day variations in the use of the parts washers, operators use parts washers to clean automotive parts, essentially the same process with the same raw materials.
- e. Please see "d." above.
- f. Please see "d." above.
- g. The "site" column indicates the Safety-Kleen site whose customer's waste the sample represents. The sampling is not meant to represent each shipment of hazardous waste. For example, spent solvent is removed from the facility storage tank on an as needed basis, perhaps once per month. The tank bottoms samples listed in the annual waste recharacterization table represent a sampling of tank
- h. The entries in the annual waste recharacterization represent wastes handled by Safety-Kleen throughout the country. Not a of these wastes are managed to a significant degree at the Safety-Kleen Farmington facility. For this reason, not all wastes are included in the permit application, and only some of these wastes would be stored at the Safety-Kleen Farmington facility.

NMED/HWB (SKFA Specific) Item No. 9.

Safety-Kleen shall explain why the wastes resulting from parts washer service are not described as carrying a "F" code as the dry cleaner and paint wastes do and why Safety-Kleen should not analyze for all constituents of concern in the F001 – F005 Listed wastes referenced in 40 CFR 268.48.

S-K Response No. 9.

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The description of wastes carrying a "F" code is dependant on the presence in the spent solvent before use of 10 percent or more of any of the constituents listed as constituents of F001 through F005 wastes. The parts washer solvent is less than 10 percent of each and less than ten percent of all those constituents. The case is different with both dry cleaner solvent and with paint waste.

The solvents used in these process are more than ten percent of one or several of the constituents listed as part of F001 through F005. Hazardous waste codes F001 through F005 are not appropriate for parts washer solvent. Please see the attached MSDSs for lacquer thinner and parts washer solvents (Safety-Kleen products).

NMED/HWB (SKFA Specific) Item No. 10.

Why should Safety-Kleen Farmington not manage all wastes at the facility according to 40 CFR Parts 264, 268, and 270 as required by 40 CFR 262.34(b)?

S-K Response No. 10.

The phrase, "transfer basis", may have been misunderstood. All wastes managed b y the facility are managed as required by 40 CFR 262.34(b). Some customers generate wastes that Safety-Kleen is not permitted to store. For these wastes, the customer may profile the waste at a TSDF permitted to manage them. Once the waste profile has been approved at the TSDF, Safety-Kleen Farmington may transport that waste to the designated facility, complying with all applicable requirements of 40 CFR 263.

NMED/HWB (SKFA Specific) Item No. 11.

Section A.1.2 – Paragraph 2, sentence 1 refers to the distillation of wastes from dry cleaner service.

Safety-Kleen must explain where such distillation occurs and whether this meets the definition of treatment provided at 40 CFR 260.10, thus requiring a permit.

S-K Response No. 11.

Dry cleaners use solvents rather than water to clean clothes. To be cost effective and protective of the environment, by not wasting resources, dry cleaning equipment typically includes distillation as a part of the cleaning equipment. This activity takes place only at dry cleaners. This activity does not meet the definition of treatment at 40 CFR 260.10 as the material involved is not a solid waste. Please see 40 CFR 261.4(a)(8)

NMED/HWB (SKFA Specific) Item No. 12.

Is Safety-Kleen referencing 40 CFR 261.2(c) in relation to the photofixer solution from which silver may be recovered?

S-K Response No. 12.

No, Safety-Kleen is not referencing 40 CFR 261.2(c) in relation to the photofixer solution from which silver may be recovered. The Safety-Kleen facility transports photo waste some of which is solid waste and not hazardous waste. The photofixer solution is managed as a hazardous waste with waste code D011.

NMED/HWB (SKFA Specific) Item No. 13.

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Please provide a list of all materials (non-products) stored at the facility that might be considered to be hazardous waste subject to the permit and that Safety-Kleen feels are not subject to 40 CFR 264, 268, and 270 permitting conditions. Also, photofixer must be accompanied by a LDR notification.

S-K Response No. 13.

Safety-Kleen may transport some hazardous wastes (as allowed in 40 CFR 263) without otherwise managing these wastes. Safety-Kleen believes that an inspector would agree that waste transported to meet the requirements of 40 CFR 263 are not subject to 40 CFR 264, 268, and 270 permitting conditions at the transport facility. Safety-Kleen agrees that photofixer is a hazardous waste and subject to LDR requirements. These requirements will be met.

NMED/HWB (SKFA Specific) Item No. 14.

If Safety-Kleen has additional procedures to verify waste characteristics they must be elaborated on in the WAP.

S-K Response No. 14.

There are no additional procedures in place to verify waste characteristics. However, any information that becomes known to Safety-Kleen that effects the waste characterization information will be considered, regardless of how the information comes to Safety-Kleen.

NMED/HWB (SKFA Specific) Item No. 15.

Section A.2 – Paragraph 3, first sentence, references HWMR 206.B.3 inappropriately. NMED believes the appropriate and applicable reference is 20.4.1.500 NMAC (incorporating 40 CFR 264.13(a)(3)(I)).

S-K Response No. 15.

Safety-Kleen agrees that the regulatory cite is in error. The reference has been corrected.

NMED/HWB (SKFA Specific) Item No. 16.

Section A.2 – The SKAL permit application contains several commitments that should be included in the SKFA application.

S-K Response No. 16.

Safety-Kleen agrees. Those same commitments have been included in the SKFA permit application, specifically in the WAP, enclosed.

NMED/HWB (SKFA Specific) Item No. 17.

Safety-Kleen shall include in the record all specific acceptable knowledge (AK) documentation assembled and used in the AK process, whether or not it supports the decision to use AK.

S-K Response No. 17.

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Safety does use knowledge of the raw materials and processes that create hazardous wastes as a starting point in understanding the nature of the hazardous waste. However, analytical testing is used to determine waste codes and hazardous constituents in the waste.

NMED/HWB (SKFA Specific) Item No. 18.

Safety-Kleen must commit to include a record of the visual examination of wastes prior to recovery made by Safety-Kleen sales representatives.

S-K Response No. 18.

Safety-Kleen does make a record of this visual inspection of wastes and commits to continue to do so.

NMED/HWB (SKFA Specific) Item No. 19.

Safety-Kleen must elaborate on the sampling technique(s) used to determine whether the contents of a waste drum deviate from the description in the section. Safety-Kleen shall also describe the sampling techniques used to characterize waste at the service center as referenced in the last paragraph of Section A.2.1.c.

S-K Response No. 19.

This section has been modified. These modifications along with previously submitted characterization procedures describe in more detail the sampling techniques used to determine the acceptability of the material.

NMED/HWB (SKFA Specific) Item No. 20.

Does Safety-Kleen manage abrasive blasting media?

S-K Response No. 20.

Safety-Kleen does not manage abrasive blasting media as one of its core waste streams. However, if a customer properly profiles abrasive blasting media waste at a disposal facility, Safety-Kleen may act as a transporter only, transporting the properly manifested waste to a designated facility.

NMED/HWB (SKFA Specific) Item No. 21.

Section A.3 – This section shall be amended with a description of the quality assurance procedures to be used when performing laboratory analyses. The section must also be amended with a commitment to ensure those procedures are adhered to and documented in the both of SKFA and SKAL operating record.

S-K Response No. 21.

Neither Safety-Kleen Farmington, nor Safety-Kleen Albuquerque operate a laboratory. All analyses are performed by contract laboratories following EPA protocol.

NMED/HWB (SKFA Specific) Item No. 22.

Section A.3, Table A-1 inappropriately lists TCLP as a parameter. The SKAL permit application Section A.3 has a preferable discussion of the waste parameters.

S-K Response No. 22.

As it is Safety-Kleen's intention to operate all facilities to the same standard, the SKAL discussion has been included in the SKFA permit application. See the SKFA WAP, attached.

NMED/HWB (SKFA Specific) Item No. 23.

Safety_Kleen must include parameter and rational to determine waste LDR status.

S-K Response No. 23.

Tables A-1 and A-2 have been updated to meet this requirement.

NMED/HWB (SKFA Specific) Item No. 24.

Safety_Kleen must identify TCLP as a sample preparation method, not an analytical method.

S-K Response No. 24.

Table A-2 has been updated to meet this requirement.

NMED/HWB (SKFA Specific) Item No. 25.

Please reference the current section of SW-846 for Sample Collection. Also, provide detailed information about sampling procedures and techniques.

S-K Response No. 25.

Table A.3 has been modified to meet this requirement. Also, Safety-Kleen training course, ET-143 "Sampling Hazardous Materials and Wastes" is attached.

NMED/HWB (SKFA Specific) Item No. 26.

Safety_Kleen must explain how effective the Coliwasa is at sampling tank bottoms.

S-K Response No. 26.

The Coliwasa may not be the most effective means of sampling tank bottoms. Please see Safety-Kleen training course ET-143, "Sampling Hazardous Materials and Wastes", attached. Employees are required to adhere to training provided.

NMED/HWB (SKFA Specific) Item No. 27.

If it is in fact standard Safety-Kleen procedure to sample every load at the recycle center, the WAP shall so.

S-K Response No. 27.

Mr. Steve Pullen

March 9, 2002

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While it is standard procedure to sample every load at the recycle center, it may be inappropriate to describe that procedure in the branch (service center) WAPs as the WAPs at the recycle centers (i.e. SK-Denton, TX, SK-Reedley, CA, etc.) are controlled at those site and by those states' regulatory agencies.

NMED/HWB (SKFA Specific) Item No. 28.

Section A.4 must recognize and reference 20.4.1.900 NMAC (incorporating 40 CFR 270.42).

S-K Response No. 28.

This change has been made to Section A.4.

NMED/HWB (SKFA Specific) Item No. 29.

Safety-Kleen must commit that all wastes stored at the facility are characterized for applicable LDR notification requirements.

S-K Response No. 29.

This change has been made to Section A.5.

NMED/HWB (SKFA Specific) Item No. 30.

Safety-Kleen must commit to maintaining the LDR notice in the facility record. Also, Safety-Kleen should explain what is meant by "receiving facility" in the last paragraph of Section A.5

S-K Response No. 30.

This change has been made to Section A.5. "Receiving facility" means, "designated facility" as defined in 40 CFR 260.10.

NMED/HWB (SKFA Specific) Item No. 31.

Safety-Kleen must elaborate on the meaning of the abbreviations, "MS" and "IC", in the WAP

S-K Response No. 31.

"MS" means mineral spirits and "IC" means immersion cleaner. These abbreviations have been removed from the WAP.

NMED/HWB (SKFA Specific) Item No. 32.

Safety-Kleen must relocate non-waste characterizations items for the facility record elsewhere in the permit application.

S-K Response No. 32.

Safety-Kleen believes the information is appropriately listed here as the record includes information related to the proper storage of the waste. Safety-Keen will move the information to whichever section(s) NMED desires. Safety-Kleen will maintain the required records regardless of the section of the permit application they appear in.

NMED/HWB (SKFA Specific) Item No. 33.

Section A.6 inappropriately references "Pt. V. sec. 264, Appendix I". Also, Safety-Kleen must commit to characterize the waste generating process as outlined at Appendix II (sic).

S-K Response No. 33.

This inappropriate reference has been corrected and now appropriately commits to this requirement.

NMED/HWB (SKFA Specific) Item No. 34.

Section A.6, Item 10 stated that LDR notifications will be maintained at the "branch manager's office". NMED requires that LDR records be maintained at the facility for inspection purposes.

S-K Response No. 34.

Section A.6, Item 10 has been restated to clarify this commitment.

NMED/HWB (SKFA Specific) Item No. 35.

Safety-Kleen must characterize wastes for Subpart BB applicability.

S-K Response No. 35.

The WAP has been modified to meet this requirement.

If you have any questions, comments, or concerns, please contact me (602-821-2422) or Mike Crawford (505-884-2277).

Sincerely,

David Ashley
EHS Manager
Safety-Kleen Corporation

Enclosures

cc: File
Steve LuQuire, Safety-Kleen

WASTE ANALYSIS PLAN

ABSTRACT

| Waste Description | EPA Waste Code No. | Facility Capacity ¹ (gallons) | Annual Amount ² |
|--|-------------------------------|---|----------------------------|
| Spent Solvents | D001 ³ | 12,000 | 50 |
| Bottom Sediment From the Tank and Ancillary Equipment | D001 ³ | N/A | 2 |
| Spent Immersion Cleaner | D001 ³ | 4,464 | 3 |
| Dry Cleaning Waste | D001, F002 ³ | 6 | |
| Paint Waste | F003, F005, D001 ³ | 4,464 | |
| Photo Chemical Wastes | D011 | 4,464 | |

NOTES: 1 The facility capacity is in gallons.

2 The annual amount is in thousands of gallons.

3 and may also include D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033 D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043

4 The total amount of drummed waste stored in the warehouse will not exceed 3,820 gallons.

The Facility shall store only wastes it is authorized to store. That is, Safety-Kleen will only store wastes included in Part A of the application for hazardous waste permit and not otherwise prohibited by the permit. Safety-Kleen will not store any hazardous waste for more than one year.

These waste streams are characterized annually as described in the "Statistical Analysis of Annual Waste Characterization Data", attached and incorporated herein by reference. (The most recent data are also included.) The testing and sampling methodology is as described in A.3, below. The data generated in this process is used to assign waste codes, if any, for each waste stream. The data generated in the annual recharacterization (AR) is also used to assist recycle centers in recycling or treating the waste streams. Recycle centers also rely on their own waste analysis plans to generate data to recycle materials and or dispose of waste. If while providing service to a customer if there is suspicion that the waste does not meet the acceptance criteria, the waste will not be picked up and the customer must provide information explaining what is in the waste and how the waste was adulterated. Please see the text below in this waste analysis plan.

Providing service to Safety-Kleen customers is dependent on a review of the customer business. If the business is a typical generator of that waste stream (for example, a garage generating parts washer waste), then limited review is performed. If the business is not a typical generator of that waste stream or if the business has other processes on site, a more detailed review of the business is performed and a certification from the customer is required stating the waste will be as described without adulterants. For example, laboratory analysis of that customer's waste may be required.

In this AR process, regulated hazardous constituents and reasonably expected underlying hazardous constituents (UHC)s are also discovered. UHC which is discovered in the annual recharacterisation will be assumed to expected throughout the waste stream. The applicable constituent concentration or technology based treatment standards for the wastes and / or individual hazardous constituents will be identified, if required by regulation, on the LDR

generated from this data. The LDRs generated in this process also identify whether the waste must be treated before being land disposed when required by regulation.

AR data is used to update subpart BB and Subpart CC plans (see these plans elsewhere in this permit application). It is anticipated that minor changes in the waste streams are unlikely to significantly change in air emissions.

Recycle centers test every shipment of waste for PCBs. If a shipment is discovered to contain PCBs, the source of the PCBs is traced and appropriate 40 CFR 761 requirements are implemented. Any equipment contaminated by PCBs is removed from service decontaminated cleaned before being put into service.

The Safety-Kleen transportation department is responsible for selecting packaging for Safety-Kleen waste streams, in addition to their responsibility for company compliance with Federal, State, and local transportation regulations and rules. The transportation department has selected packaging based on past waste recharacterizations and continue to review AR and other data to maintain compliance with material packaging requirements.

A.1 DESCRIPTION OF WASTES

Several types of waste result from the servicing of Safety-Kleen customers and the maintenance of the service center. It should be noted that the solvents managed at this facility are incompatible with strong oxidizers and reactive metals, none of which are present in the containers, container storage area, or the concrete sealant. The solvents are also compatible with one another. Analytical data for the wastes and specifications for the products are in Attachment A-1 and qualitative descriptions follow.

A.1.1 Wastes Resulting From the Parts of Washer Service

Used solvents from parts washers is accumulated in a 12,000 gallon aboveground, storage tank via the return and fill station. Containers of used material are poured into a dumpster at the return and fill station which in turn empties into the tank. This waste handling method results in several types of solvent waste:

- a. Used solvent - The used solvent is removed from the tank by a tanker truck on a scheduled basis. About 5,000 gallons are removed every month. This waste is ignitable (D001) and may exhibit the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.
- b. Bottom sediment in the tank - Approximately once every two years, it is necessary to remove sediment and other heavy material from the bottom of the tank. A Safety-Kleen vacuum truck is generally used for this purpose. The sediment is ignitable (D001) and may exhibit the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.
- c. Dumpster Sediment - Sediment may also accumulate in the drum washers in the return/fill station. The sediment is manually removed and placed in containers. The dumpster sediment is representative of the waste codes described in items a and b above.
- d. Used Aqueous Parts Cleaning Solvent - may be bulked at the service center into containers that meet DOT specifications or may be co-mingled with the other solvent into the used solvent tank. It may be toxic using the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.
- e. Immersion Cleaner - is a different type of solvent that is not placed in the aboveground storage tank. Containers of immersion cleaner typically remain in the drum in which it was originally used until it is received at the recycle center. Drums are placed in the drum storage area of the warehouse and are stacked no more than two-high in the drum storage area of the warehouse.

The immersion cleaner is a non-halogenated hydrocarbon mixture and may exhibit the toxic characteristics of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.

A.1.2 Wastes Resulting From the Dry Cleaner Service

Dry cleaning wastes consist of used filter cartridges, powder residue from diatomaceous or other powder filter systems and still bottoms. These wastes are packaged on the customer's premises in containers meeting DOT specifications. The containers are then palletized, stacked two-high and placed in the container storage area of the warehouse. Approximately 95% of the dry cleaning solvent used is perchloroethylene (F002 and D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043) and the remaining 5% is trichloro-trifluoroethane (F002) and toxic using the characteristic leaching procedure (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043).

A.1.3 Wastes Resulting From the Paint Service

Paint wastes consist of various lacquer thinners (D001, F003, and F005) and may be toxic as per the characteristic leaching procedure (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043). The wastes are collected in containers which meet DOT requirements at the customer's place of business and containers are then palletized and stored in an enclosed concrete masonry building (the H-3 Flammable Storage Building).

A.1.4 Photographic/Imaging Wastes

Some photographic imaging wastes managed by the facility are not solid wastes per 40 CFR 261.2(c) because their hazardous constituent is reclaimed. Others are managed under the provisions of Subpart F of 40 CFR 266 – Recyclable Materials Utilized for Precious Metals Recovery. Imaging waste consists typically of three waste streams. Photo fixer solution is an aqueous solution used to etch photo film during processing. This material is characteristic for silver (D011). Safety-Kleen is able to recover the silver from the solution. Used Photo developer is an aqueous solution that exhibits no hazardous waste characteristics but may not be allowed to discharge into public wastewater treatment systems in some communities. Silver collection canisters are sent to a recycle center for reclamation. These canisters do not meet the definition of a hazardous waste as per 40 CFR 260.30(c) and are managed as a non-regulated material.

A.2 QUALITY CONTROL PROCEDURES

The used solvents are the primary feed stocks for the generation of Safety-Kleen solvent products. As a result, quality control of the used solvents is necessary to ensure that reclamation occurs in the safest and most efficient manner possible. The service center collects used solvents from approximately 1,100 customers, most of who are small quantity generators, and an estimated 14,000 drums containing recoverable solvents are returned to the service center each year for shipment to a reclaimer. With such large numbers of waste generators and waste shipments, performing detailed analyses at the service center is economically and logistically infeasible.

Furthermore, as discussed earlier in the Facility Description, all the materials collected at the service center are managed at all times in a closed loop system and are usually collected from a company with a single process. The composition and quality of these materials are known and Safety-Kleen's operating experiences have shown that the collected materials rarely deviate from company specifications. As an additional safeguard, Safety-Kleen personnel are instructed to inspect all materials before returning them to the service centers as described in Section A.2.1. This mode of operation has been proven to safeguard the recycling process and maintain a quality product.

However, in accordance with 20.4.1.500 NMAC (incorporating 40 CFR (a)(3)(i), Safety-Kleen will perform physical and chemical analysis of a waste stream when it is notified or has reason to believe that the process or operation generating the waste has changed, or when the result of inspection indicates that the waste collected does not match that designated. It is Safety-Kleen's practice that suspected non-conforming material must not be

accepted until a full analysis has been conducted. If a container with questionable contents is returned to the service center, a sample will be taken and analysis will be performed at the recycling center, Safety-Kleen Tech Center (Elk Grove Village, Illinois) or other qualified lab according to the procedures outlined in Section A.3 of this attachment. The Branch Manager will be notified of any contamination that may have occurred.

Safety-Kleen trains personnel to verify the physical characteristics of the wastes at several points in the management of the solvent. These procedures are described briefly below.

Safety-Kleen controls the use and management of its solvents by:

1. Limiting the solvents stored to those compatible with one another and their containers;
2. Limiting the uses of each type of solvent for (example, dry cleaning waste is only collected from dry cleaner shops);
3. Determining the customer's type of business (i.e., the SIC code is recorded) and the purpose for which the customer will use the machine;
4. Training customers to use the machines properly;
5. Training employees to inspect the physical characteristics of used solvent and determine whether it is acceptable;
6. When waste is collected from a customer, indicate on the service document whether the used solvent meets Safety-Kleen's acceptance criteria;
7. Marking each container with the customer's name, address, and EPA I.D. number (if available). This information remains on containerized waste until it is accepted at the reclamation facility;
8. Keeping a record of each incoming and outgoing shipment in the operating log; and

Safety-Kleen's customers sign a service document containing the following information:

- a. the name, address and EPA I.D. number of the facility to which the waste is being shipped;
- b. the customer's name, address and EPA I.D. number (if available); and
- c. the description and amount of Safety-Kleen solvent waste generated.

In addition, each incoming and outgoing shipment is recorded in the facility's operating log.

If a waste is rejected at the time of service, the customer will be given a choice as to whether he will dispose of the waste himself or require Safety-Kleen's assistance. If he requests Safety-Kleen's assistance, a sample will be drawn using a Coliwsa tube or similar sampling device to ensure representative samples. The sample will be analyzed for flash point and volatile organic compounds. If this analysis does not adequately define the constituents, additional analyses will be performed as necessary (e.g., semi-volatile organic compounds, PCBs, etc.).

The laboratory sends waste analyses results to the service center. If through the additional analysis the waste is determined to be acceptable at the branch, it will be relabeled, manifested and then managed with the other wastes. If it is determined through the additional analysis to not be acceptable, the waste will either be: (a) managed at the Service Center on a 10 day transfer basis and manifested to a properly permitted reclamation or disposal facility, or (b) manifested and shipped directly to a properly permitted reclamation or disposal facility. The analytical results from the additional characterization analysis will be used to appropriately manage the waste. The Branch Manager has the right to refuse any further service to a business which has returned waste that does not meet acceptable criteria.

A.2.1 Qualitative Waste Analysis

a. General Inspection Procedures:

Safety-Kleen visually inspects each drum of waste when it is collected at the customer's location. Safety-Kleen examines the waste for volume, appearance, consistency and odor and is intimately familiar with the characteristics of the waste it receives. Based on the known waste characteristics, Safety-Kleen has established the specific acceptance criteria set forth below, to be used by Safety-Kleen personnel in their visual inspections. These inspection procedures allow Safety-Kleen to ensure that the waste being picked up meets appropriate acceptance criteria.

If a particular drum of waste does not meet the acceptance criteria, the Safety-Kleen service representative will either (1) sample the waste for testing at a Safety-Kleen laboratory to determine whether the waste has been contaminated; or (2) reject the waste. In the event the waste is not sampled, Safety-Kleen will notify the generator's State Agency that is authorized to implement the RCRA hazardous waste management program (or EPA if the RCRA program has not been delegated to the State).

If the waste is sampled for further analysis, the service representative will collect a sample, then seal the drum and label it as hazardous waste. The drum is left with the customer pending the results of the laboratory tests. The laboratory testing initially involves analyzing the suspect waste for flash-point and the presence of volatile organic compounds. Pending those results, additional constituents may also be analyzed. The costs of any sampling and testing performed as a result of the waste failing to meet the acceptance criteria, will be borne by the customer.

If the laboratory analysis reveals that the sampled waste is not contaminated, Safety-Kleen will accept the waste from the customer. If the laboratory confirms that the waste is contaminated, the generator will be responsible for securing an alternate means of disposal or they may contract with Safety-Kleen to handle the waste on a ten-day transfer basis.

b. Waste Specific Criteria:

The following is a description of the specific acceptance criteria for each waste stream.

1. Used solvent:

The acceptance criteria for determining by visual inspection whether used solvent has been contaminated are volume, odor and color, the most significant of which is volume. If the volume of waste in a given drum exceeds the specified level, the Safety-Kleen service representative will conduct an inquiry of the customer's operation and handling procedures. Contingent on the customer's responses, the solvent may be accepted, a sample of the waste may be collected for laboratory testing as described above, or the waste may be rejected.

In addition to the volume criterion, the odor of the used solvent may typically indicate whether the waste has been contaminated. Used solvent has a distinctive odor. The service representatives are expressly instructed not to deliberately sniff the waste. However, if the solvent has been contaminated the service representative may notice a difference in the odor when he services the machine.

The used solvent is also visually inspected for its color. Unused solvent typically has a clear or greenish tint. As the solvent is used, it turns brown in color. The more it is used, the darker brown it becomes, until it is almost black. In the case of a print shop, the solvent may be clear, green, brown, black, or many colors. Therefore, if the used solvent does not appear to be the expected color, the service representative will sample the waste for possible contamination as described above, or will reject the waste.

2. Immersion Cleaner:

The criteria for the inspection of used immersion cleaner are volume and color. If the volume of waste exceeds the specified level a sample will be tested for contamination following the procedures described above or the waste will be rejected.

Unused immersion cleaner is amber in color. As the solvent is used, it turns brown in color. The more it is used, the darker brown it becomes, until it is almost black. If the used immersion cleaner does not appear to be the expected color, the service representative will either sample the waste for possible contamination as described above, or reject the drum of waste.

3. Dry Cleaner Wastes:

Dry cleaner wastes normally consist of used filter cartridges, powder residue, and still bottoms.

a. Used Filter Cartridges:

Used filter cartridges are placed in containers meeting DOT specifications. It is obvious to the service representative whether the items in the drums are filter cartridges. The drums may also contain approximately one inch of liquid which should either be clear or have a light brownish tint. If the amount of the liquid is greater than approximately one inch or if the liquid is a color other than light brown, the service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

b. Powder Residue:

The criteria for the acceptance of powder residue are consistency and color, the former being the more significant criterion of the two. A drum of powder residue should not contain any liquid. As the name implies, it will be dry or "powdery". If there is any liquid in the drum, the waste will be sampled for contamination in accordance with the procedures described above, or the waste will be rejected.

The powder residue is also inspected for color and should appear to be grayish-black. If the residue is not grayish-black in color, the service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

c. **Still Bottoms:**

The criteria for the acceptance of dry cleaning still bottoms are consistency and color. The waste should have a highly viscous, tar-like consistency. If the consistency of the waste is too thin or if there is more than one inch of free liquid in the drum, the waste will be sampled for contamination in accordance with the procedures described above, or will be rejected.

In addition to consistency, the still bottom waste is inspected for color. The waste should appear dark brown or black in color. If the waste is a different color, a service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

4. **Paint Wastes:**

Safety-Kleen handles both lacquer thinner waste generated from the paint gun cleaning process and paint waste.

a. **Lacquer Thinner Waste:**

The significant criterion for determining whether lacquer thinner waste will be accepted is volume. The solvent is provided to customers in pails which meet DOT requirements. The paint gun cleaning machine operates as a closed system where by there should never be a combined volume of more than the expected amount of solvent in the two collection pails. The solvent is pumped from a tube in a left hand pail (facing the machine) through the machine into the right hand pail. The left hand pail starts with clean solvent which will be pumped out as the machine is used to clean the spray guns. If a service representative discovers more than the expected amount of solvent in the two pails, or there is an overfill from the right hand pail, the waste will be sampled for contamination in accordance with the procedures described above, or the waste will be rejected.

b. **Paint Waste:**

b.1 **Liquid**

The significant criterion for the inspection of paint waste is consistency. The waste should contain no more than 30 percent solids. The service representative will insert a Colliwasa or similar sampling device into the drum. The sampling device should glide easily down to the bottom of the drum. The service representative will handle this waste as a Class 3 flammable waste. If there is resistance to the insertion of the glass tube, it is assumed that the level of solids is in excess of 30 percent and the service representative will reject the waste.

The contents of the glass tube are also visually examined for consistency and water content. The material should be a "free flowing" liquid, but should not contain a significant amount of water. If there is more than approximately 10 inches of water in the 3 foot tube (the water and paint will separate in the tube and thus can be measured) the waste will be rejected.

b.2 **Solid:**

For waste containing more than 30 percent solids the service representative will handle the waste as a Class 4 flammable waste.

5. **Photographic/Imaging Waste**

Photographic/Imaging waste is collected from facilities where one process is managed and the possibility of cross contamination is minimal. The sales representative inspects

the contents of the containers of photographic/imaging waste when the sales representative services the customer. The pH and silver content of the waste is checked at the time of service, and the waste is also inspected visually.

A.3 WASTE ANALYSES AT THE RECYCLE CENTER OR QUALIFIED LABORATORY

Analyses performed at the Safety-Kleen recycle centers are undertaken to safeguard the recycling process and to assure a product quality. The following section summarizes the waste analyses practiced at the recycle center for the hazardous materials returned from the Albuquerque branch. For each waste type stored at the branch, at least the following analyses must be performed annually (annual re-characterization analysis). If a particular waste stream is not managed at the service center during the previous year, no re-characterization analysis is performed. Copies of the results for the annual analyses must be maintained at the branch office for the life of the permit. A copy of the most recent re-characterization analysis is contained in Attachment A-1.

A.3.1 Solvents

- Flash point (must be greater than 90°F).

If the flashpoint is unacceptable, the Albuquerque Branch Manager will be notified immediately and the load will receive appropriate special handling. If the results are acceptable, the following tests will be performed:

- Volatile Organic Analysis, using EPA Methods 8015, 8021, 8260, or approved equivalents.
- Physical appearance, including bottom sediment and water content
- Specific gravity
- pH
- Distillation performance

If any of these tests yield unacceptable results or indicate solvent contamination outside the normal range, the Branch Manager will be notified immediately.

In addition to the tests listed above, which will be performed on a representative sample from every load received at the recycle center from the Albuquerque service center, a full Toxicology Characteristic Leaching Procedure (TCLP) analysis for all 40 constituents, (except for pesticides and herbicides) will be performed at least once each calendar year.

A.3.2 Solvent Tank Bottom Sludge and Free Water

- Flash point (Must be greater than 90°F).
- Analysis for content of lead, cadmium, and chromium.
- pH

As described above for solvent, a full TCLP analysis (except for the pesticides and herbicides) will be performed on a representative sample at least once each calendar year.

A.3.3 Immersion Cleaner Solvent

Containers of waste immersion cleaner are typically characterized at the recycle center using the following criteria:

- Flash point
- Physical appearance
- Specific gravity
- Percent water
- Volatile Organic Analysis (using EPA methods 8015, 8021, 8260 or approved equivalents)

If any of these tests yield unacceptable results or indicate solvent contamination outside the normal range, the Branch Manager will be notified immediately. As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of immersion cleaner at least once each calendar year.

A.3.4 Dry Cleaning Solvent/Still Bottoms

- Physical appearance
- Volatile Organic Analysis for Perchloroethylene (using EPA methods 8015, 8021, 8260 or approved equivalents)
- Specific gravity

If any of these tests yield unacceptable results or indicate contamination outside the normal range, the Branch Manager will be notified immediately.

As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of dry cleaning waste at least once each calendar year.

A.3.5 Paint Waste

Paint wastes are generally characterized at the recycle center using the following criteria:

- Metals
- Flash points
- Physical appearance
- Specific gravity
- Percent water
- Volatile organic analysis (using EPA methods 8015, 8021, 8260, or approved equivalents)

As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of paint waste at least once each calendar year.

A.4 WASTE ANALYSIS PLAN UPDATE

This waste analysis plan will be modified when a new waste product is collected or when sampling and material management methods change. Revision of the plan is typically the responsibility of the Safety-Kleen corporate or regional compliance offices. Any revision to this plan will be in accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.42)

A.5 LAND BAN NOTIFICATION/CERTIFICATION FORMS

In accordance with 40 CFR 268.7(a)(2), Safety-Kleen provides a one time written notice for wastes banned for land disposal with the initial shipment. No further notification is necessary unless the waste changes. Safety-Kleen will provide the written notice for wastes banned from landfills as follows:

1. Printing the Notice language on manifests - such as for core-business customers to branch shipments; or
2. Special forms for each regularly handled waste types (e.g., parts washer solvents, immersion cleaner, dry cleaning wastes, etc); or
3. A general form that must be completed for unique or non-standard waste streams. These wastes will only be handled on a transfer basis in accordance with 40 CFR 263.12.

The notice is required paperwork for all Safety-Kleen waste types. Further, all wastes stored at the facility will have been characterized and appropriate notification made of LDR requirements, regardless of where the waste was generated and a copy of the required notice maintained in the facility record. Shipments lacking the proper Notice will not be accepted by any Safety-Kleen facility. When a shipment with the proper Notice is received, the notice is kept in the files of the receiving facility with the manifest or with the pre-print if a manifest is not used.

A.6 OPERATING LOG RECORD

Safety-Kleen maintains an operating log record on site which includes the following information as it becomes available:

1. A description and the quantity of each hazardous waste received, and the method and date of its storage as required by Pt. V. Sec. 264, Appendix I;
2. The location of hazardous waste within the facility and quantity;
3. Records and results of waste analyses performed;
4. Summary reports and details of all incidents that require implementing the contingency plan;
5. Records and results of inspections;
6. Monitoring, testing or analytical data and corrective action where required;
7. For off-site facilities, Notices to generators as specified in 264.12(b);
8. Closure and post-closure cost estimates;
9. A certification by the permittee no less often than annually, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste; and
10. The land ban notices and requirements. These records are kept on file at the facility.

A.7 WASTE DETERMINATION FOR SUBPART BB AND CC COMPLIANCE

For purposes of waste determination, this facility utilizes knowledge of the wastes described in Section A.1, A.2 and A.3 above. For those hazardous wastes which are managed on a transfer basis, the Subpart CC regulation does not apply. However, the owner/operator may use knowledge of the waste based on information included in manifests, shipping papers, or waste certification notices to confirm waste determination for the generator or the ultimate receiving facility.

Based upon this knowledge, it has been determined that all wastes managed in tanks or containers at this facility may display an average volatile organic concentration of greater than 500 ppmw at the point of waste origination. Documentation of this knowledge is provided in Attachment A-1 (waste characterization analytical results), as required in 40 CFR 264.1063(d) and 264.1083. Therefore, hazardous wastes managed in tanks or containers at this facility shall be managed in accordance with the applicable Subpart CC standards.

Table A-1

Parameters And Rationale For Hazardous Waste Analysis

| Hazardous Waste | Parameter* | Rationale |
|---------------------------|--|---|
| 1. Spent Solvents | Flash Point | Ignitable Characteristic (D001) |
| | TCLP | Contains components which exceed the limits listed in 40 CFR 261.24 |
| | Hazardous Constituent Concentration | Determination of Waste's LDR Status |
| 2. Solvent Tank Bottoms | Same as number 1 | Same as number 1 |
| | Hazardous Constituent Concentration | Determination of Waste's LDR Status |
| 3. Used Immersion Cleaner | TCLP | Contains components which exceed the limits listed in 40 CFR 261.24 |
| | Hazardous Constituent Concentration | Determination of Waste's LDR Status |
| 4. Dry Cleaning Wastes | Perchloroethylene, 1,1,2-trichloro-1,1,2,2,2-trifluoroethane | Contains this ingredient (F002) |
| | TCLP | Contains components which exceed the limits listed in 40 CFR 261.24 |
| | Flash Point | Ignitable Characteristic (D001) |
| | Hazardous Constituent Concentration | Determination of Waste's LDR Status |

Notes: TCLP = Toxicity Characteristic Leaching Procedure.

* Earlier sample analyses indicated the parameters listed are the only ones of concern.

Table A-2

Parameters And Test Methods

| Parameter | Test Method | Reference |
|--|---|--|
| Flash Point | Setaflash closed cup tester | U.S. EPA SW 846, Third Ed., Method 1020 (ASTM Method D327-78) or an equivalent method. |
| Hydrocarbons, Volatile and Semivolatile Organic Compounds LDR Constituents | Gas Chromatography (GC) and/or Mass Spectroscopy | U.S. EPA Methods 8010, 8015, 8020, 8120, 8240, and/or 8270 or equivalent methods. |
| Toxicity Characteristics | TCLP if necessary, followed by 1310 or (3010, 7760) then 6010 and 1310 then 7470. | 40 CFR 261, Appendix II; 55 FR 11798 (March 29, 1990) |

Table A-3

Methods To Sample Hazardous Wastes

| Hazardous Waste | Reference for Sampling | Description of Sampling Method | Sampler |
|----------------------------|--|--|---|
| 1. Spent Solvents | Sampling a tank "Samples & Sampling Procedures for Hazardous Waste Streams" EPA – 600/2-80-018 and Safety-Kleen training, ET-143, "Sampling Hazardous Materials and Wastes". | Test Methods for the Evaluation of Solid Waste Physical/ Chemical Methods, SW846, U.S. EPA Chapter One, et. seq. And Safety-Kleen Training ET-143, "Sampling Hazardous Materials and Wastes" | Coliwas Tube, Weighted Bottle Sampler, Pond Sampler, Trier, Large Trier, Auger, Grain Thief, or Scoop as appropriate. |
| 2. Solvent Tank Bottoms | Same as number 1 | Same as number 1 | Same as number 1 |
| 3. Spent Immersion Cleaner | Same as number 1 | Same as number 1 | Same as number 1 |
| 4. Dry Cleaning Wastes | Same as number 1 | Same as number 1 | Same as number 1 |

Table A-4

Frequency of Analysis

| Hazardous Waste | Analysis* | Frequency |
|---------------------------|--|-------------------|
| 1. Spent Solvents | Flash Point | At least annually |
| | TCLP | At least annually |
| 2. Solvent Tank Bottoms | Flash Point | At least annually |
| | TCLP | At least annually |
| 3. Used Immersion Cleaner | TCLP | At least annually |
| 4. Dry Cleaning Wastes | Perchloroethylene, 1,1,2-trichloro-1,2,2-trifluoroethane | At least annually |
| | TCLP | At least annually |
| | Flash Point | At least annually |
| | | |

Notes: TCLP = Toxicity Characteristic Leaching Procedure.

* Past analyses have indicated the parameters listed are the only ones of concern.

ATTACHMENT A-1
ANNUAL RE-CHARACTERIZATION DATA

July 27, 2001

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A-19

Farmington, NM

WASTE ANALYSIS PLAN

ABSTRACT

| Waste Description | EPA Waste Code No. | Facility Capacity ¹ (gallons) | Annual Amount ² |
|----------------------------------|-------------------------------|---|----------------------------|
| Used Solvents | D001 ³ | 12,000 | 143 |
| Tank/Dumpster Bottom Sediment | D001 ³ | N/A | 3 |
| Used Immersion Cleaner | See Below ³ | 6,990 | 3 |
| Dry Cleaning Waste | F002 ³ | Included with Used Immersion Cleaner | 6 |
| Used Solvent (aqueous) | See Below ³ | Included with Used Immersion Cleaner | 3 |
| Paint Waste | D001, F003, F005 ³ | 9,650 | 14 |
| Photo Chemical Wastes | D011 | Included with Used Immersion Cleaner | 3 |

¹ The facility capacity is in gallons.

² The annual amount is in thousands of gallons.

³ and may include D004, D005, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043.

The Facility shall store only wastes it is authorized to store. That is, Safety-Kleen will only store wastes included in Part A of the application for hazardous waste permit and not otherwise prohibited by the permit. Safety-Kleen will not store any hazardous waste for more than one year.

These waste streams are characterized annually as described in the "Statistical Analysis of Annual Waste Characterization Data", attached and incorporated herein by reference. (The most recent data are also included.)

The testing and sampling methodology is as described in A.3, below. The data generated in this process is used to assign waste codes, if any, for each waste stream. The data generated in the annual recharacterization (AR) is also used to assist recycle centers in recycling or treating the waste streams. Recycle centers also rely on their own waste analysis plans to generate data to recycle materials and or dispose of waste. If while providing service to a customer if there is suspicion that the waste does not meet the acceptance criteria, the waste will not be picked up and the customer must provide information explaining what is in the waste and how the waste was adulterated. Please see the text below in this waste analysis plan.

Providing service to Safety-Kleen customers is dependent on a review of the customer business. If the business is a typical generator of that waste stream (for example, a garage generating parts washer waste), then limited review is performed. If the business is not a typical generator of that waste stream or if the business has other processes on site, a more detailed review of the business is performed and a certification from the customer is required stating the waste will be as described without adulterants. For example, laboratory analysis of that customer's waste may be required.

In this AR process, regulated hazardous constituents and reasonably expected underlying hazardous constituents (UHC)s are also discovered. UHC which is discovered in the annual recharacterisation will be assumed to expected throughout the waste stream. The applicable constituent concentration or technology based treatment standards for the wastes and / or individual hazardous constituents will be identified, if required by regulation, on the LDR generated from this data. The LDRs generated in this process also identify whether the waste must be treated before being land disposed when required by regulation.

AR data is used to update subpart BB and Subpart CC plans (see these plans elsewhere in this permit application). It is anticipated that minor changes in the waste streams are unlikely to significantly change in air emissions.

Recycle centers test every shipment of waste for PCBs. If a shipment is discovered to contain PCBs, the source of the PCBs is traced and appropriate 40 CFR 761 requirements are implemented. Any equipment contaminated by PCBs is removed from service decontaminated cleaned before being put into service.

The Safety-Kleen transportation department is responsible for selecting packaging for Safety-Kleen waste streams, in addition to their responsibility for company compliance with Federal, State, and local transportation regulations and rules. The transportation department has selected packaging based on past waste recharacterizations and continue to review AR and other data to maintain compliance with material packaging requirements.

A.1 DESCRIPTION OF WASTES

Several types of waste result from the servicing of Safety-Kleen customers and the maintenance of the service center. It should be noted that the solvents managed at this facility are incompatible with strong oxidizers and reactive metals, none of which are present in the containers, container storage area, or the concrete sealant. The solvents are also compatible with one another. Analytical data for the wastes and specifications for the products are in Attachment A-1 and qualitative descriptions follow.

A.1.1 Wastes Resulting From the Parts of Washer Service

Used solvents from parts washers is accumulated in a 12,000 gallon underground, storage tank via the return and fill station. Containers of used material are poured into a dumpster at the return and fill station which in turn empties into the tank. This waste handling method results in several types of solvent waste:

- a. Used solvent - The used solvent is removed from the tank by a tanker truck on a scheduled basis. About 5,000 gallons are removed every month. This waste is ignitable (D001) and may exhibit the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.
- b. Bottom sediment in the tank - Approximately once every two years, it is necessary to remove sediment and other heavy material from the bottom of the tank. A Safety-Kleen vacuum truck is generally used for this purpose. The sediment is ignitable (D001) and may exhibit the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.
- c. Dumpster Sediment - Sediment may also accumulate in the drum washers in the return/fill station. The sediment is manually removed and placed in containers. The dumpster sediment is representative of the waste codes described in items a and b above.
- d. Used Aqueous Parts Cleaning Solvent - may be bulked at the service center into containers that meet DOT specifications or may be co-mingled with the other solvent into the used solvent tank. It may be toxic using the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.
- e. Immersion Cleaner - is a different type of solvent that is not placed in the underground storage tank. Containers of immersion cleaner typically remain in the drum in which it was originally used until it is received at the recycle center. Drums are placed in the drum storage area of the warehouse and are stacked no more than two-high in the drum storage area of the warehouse.

The immersion cleaner is a non-halogenated hydrocarbon mixture and may exhibit the toxic characteristics of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.

A.1.2 Wastes Resulting From the Dry Cleaner Service

Dry cleaning wastes consist of used filter cartridges, powder residue from diatomaceous or other powder filter systems and still bottoms. These wastes are packaged on the customer's premises in containers meeting DOT specifications. The containers are then palletized, stacked two-high and placed in the container storage area of the warehouse. Approximately 95% of the dry cleaning solvent used is perchloroethylene (F002 and D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043) and the remaining 5% is trichloro-trifluoroethane (F002) and toxic using the characteristic leaching procedure (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043).

A.1.3 Wastes Resulting From the Paint Service

Paint wastes consist of various lacquer thinners (D001, F003, and F005) and may be toxic as per the characteristic leaching procedure (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043). The wastes are collected in containers which meet DOT requirements at the customer's place of business and containers are then palletized and stored in an enclosed concrete masonry building (the H-3 Flammable Storage Building).

A.1.4 Photographic/Imaging Wastes

Some photographic imaging wastes managed by the facility are not solid wastes per 40 CFR 261.2(c) because their hazardous constituent is reclaimed. Others are managed under the provisions of Subpart F of 40 CFR 266 – Recyclable Materials Utilized for Precious Metals Recovery. Imaging waste consists typically of three waste streams. Photo fixer solution is an aqueous solution used to etch photo film during processing. This material is characteristic for silver (D011). Safety-Kleen is able to recover the silver from the solution. Used Photo developer is an aqueous solution that exhibits no hazardous waste characteristics but may not be allowed to discharge into public wastewater treatment systems in some communities. Silver collection canisters are sent to a recycle center for reclamation. These canisters do not meet the definition of a hazardous waste as per 40 CFR 260.30(c) and are managed as a non-regulated material.

A.2 QUALITY CONTROL PROCEDURES

The used solvents are the primary feed stocks for the generation of Safety-Kleen solvent products. As a result, quality control of the used solvents is necessary to ensure that reclamation occurs in the safest and most efficient manner possible. The service center collects used solvents from approximately 1,100 customers, most of who are small quantity generators, and an estimated 14,000 drums containing recoverable solvents are returned to the service center each year for shipment to a reclaimer. With such large numbers of waste generators and waste shipments, performing detailed analyses at the service center is economically and logistically infeasible.

Furthermore, as discussed earlier in the Facility Description, all the materials collected at the service center are managed at all times in a closed loop system and are usually collected from a company with a single process. The composition and quality of these materials are known and Safety-Kleen's operating experiences have shown that the collected materials rarely deviate from company specifications. As an additional safeguard, Safety-Kleen personnel are instructed to inspect all materials before returning them to the service centers as described in Section A.2.1. This mode of operation has been proven to safeguard the recycling process and maintain a quality product.

However, in accordance with 20.4.1.500 NMAC (incorporating 40 CFR (a)(3)(i)), Safety-Kleen will perform physical and chemical analysis of a waste stream when it is notified or has reason to believe that the process or operation generating the waste has changed, or when the result of inspection indicates that the waste collected does not match that designated. It is Safety-Kleen's practice that suspected non-conforming material must not be

accepted until a full analysis has been conducted. If a container with questionable contents is returned to the service center, a sample will be taken and analysis will be performed at the recycling center, Safety-Kleen Tech Center (Elk Grove Village, Illinois) or other qualified lab according to the procedures outlined in Section A.3 of this attachment. The Branch Manager will be notified of any contamination that may have occurred.

Safety-Kleen trains personnel to verify the physical characteristics of the wastes at several points in the management of the solvent. These procedures are described briefly below.

Safety-Kleen controls the use and management of its solvents by:

1. Limiting the solvents stored to those compatible with one another and their containers;
2. Limiting the uses of each type of solvent for (example, dry cleaning waste is only collected from dry cleaner shops);
3. Determining the customer's type of business (i.e., the SIC code is recorded) and the purpose for which the customer will use the machine;
4. Training customers to use the machines properly;
5. Training employees to inspect the physical characteristics of used solvent and determine whether it is acceptable;
6. When waste is collected from a customer, indicate on the service document whether the used solvent meets Safety-Kleen's acceptance criteria;
7. Marking each container with the customer's name, address, and EPA I.D. number (if available). This information remains on containerized waste until it is accepted at the reclamation facility;
8. Keeping a record of each incoming and outgoing shipment in the operating log; and

Safety-Kleen's customers sign a service document containing the following information:

- a. the name, address and EPA I.D. number of the facility to which the waste is being shipped;
- b. the customer's name, address and EPA I.D. number (if available); and
- c. the description and amount of Safety-Kleen solvent waste generated.

In addition, each incoming and outgoing shipment is recorded in the facility's operating log.

If a waste is rejected at the time of service, the customer will be given a choice as to whether he will dispose of the waste himself or require Safety-Kleen's assistance. If he requests Safety-Kleen's assistance, a sample will be drawn using a Coliwsa tube or similar sampling device to ensure representative samples. The sample will be analyzed for flash point and volatile organic compounds. If this analysis does not adequately define the constituents, additional analyses will be performed as necessary (e.g., semi-volatile organic compounds, PCBs, etc.).

The laboratory sends waste analyses results to the service center. If through the additional analysis the waste is determined to be acceptable at the branch, it will be relabeled, manifested and then managed with the other wastes. If it is determined through the additional analysis to not be acceptable, the waste will either be: (a) managed at the Service Center on a 10 day transfer basis and manifested to a properly permitted reclamation or disposal facility, or (b) manifested and shipped directly to a properly permitted reclamation or disposal facility. The analytical results from the additional characterization analysis will be used to appropriately manage the waste. The Branch Manager has the right to refuse any further service to a business which has returned waste that does not meet acceptable criteria.

A.2.1 Qualitative Waste Analysis

a. General Inspection Procedures:

Safety-Kleen visually inspects each drum of waste when it is collected at the customer's location. Safety-Kleen examines the waste for volume, appearance, consistency and odor and is intimately familiar with the characteristics of the waste it receives. Based on the known waste characteristics, Safety-Kleen has established the specific acceptance criteria set forth below, to be used by Safety-Kleen personnel in their visual inspections. These inspection procedures allow Safety-Kleen to ensure that the waste being picked up meets appropriate acceptance criteria.

If a particular drum of waste does not meet the acceptance criteria, the Safety-Kleen service representative will either (1) sample the waste for testing at a Safety-Kleen laboratory to determine whether the waste has been contaminated; or (2) reject the waste. In the event the waste is not sampled, Safety-Kleen will notify the generator's State Agency that is authorized to implement the RCRA hazardous waste management program (or EPA if the RCRA program has not been delegated to the State).

If the waste is sampled for further analysis, the service representative will collect a sample, then seal the drum and label it as hazardous waste. The drum is left with the customer pending the results of the laboratory tests. The laboratory testing initially involves analyzing the suspect waste for flash-point and the presence of volatile organic compounds. Pending those results, additional constituents may also be analyzed. The costs of any sampling and testing performed as a result of the waste failing to meet the acceptance criteria, will be borne by the customer.

If the laboratory analysis reveals that the sampled waste is not contaminated, Safety-Kleen will accept the waste from the customer. If the laboratory confirms that the waste is contaminated, the generator will be responsible for securing an alternate means of disposal or they may contract with Safety-Kleen to handle the waste on a ten-day transfer basis.

b. Waste Specific Criteria:

The following is a description of the specific acceptance criteria for each waste stream.

1. Used solvent:

The acceptance criteria for determining by visual inspection whether used solvent has been contaminated are volume, odor and color, the most significant of which is volume. If the volume of waste in a given drum exceeds the specified level, the Safety-Kleen service representative will conduct an inquiry of the customer's operation and handling procedures. Contingent on the customer's responses, the solvent may be accepted, a sample of the waste may be collected for laboratory testing as described above, or the waste may be rejected.

In addition to the volume criterion, the odor of the used solvent may typically indicate whether the waste has been contaminated. Used solvent has a distinctive odor. The service representatives are expressly instructed not to deliberately sniff the waste. However, if the solvent has been contaminated the service representative may notice a difference in the odor when he services the machine.

The used solvent is also visually inspected for its color. Unused solvent typically has a clear or greenish tint. As the solvent is used, it turns brown in color. The more it is used, the darker brown it becomes, until it is almost black. In the case of a print shop, the solvent may be clear, green, brown, black, or many colors. Therefore, if the used solvent does not appear to be the expected color, the service representative will sample the waste for possible contamination as described above, or will reject the waste.

2. Immersion Cleaner:

The criteria for the inspection of used immersion cleaner are volume and color. If the volume of waste exceeds the specified level a sample will be tested for contamination following the procedures described above or the waste will be rejected.

Unused immersion cleaner is amber in color. As the solvent is used, it turns brown in color. The more it is used, the darker brown it becomes, until it is almost black. If the used immersion cleaner does not appear to be the expected color, the service representative will either sample the waste for possible contamination as described above, or reject the drum of waste.

3. Dry Cleaner Wastes:

Dry cleaner wastes normally consist of used filter cartridges, powder residue, and still bottoms.

a. Used Filter Cartridges:

Used filter cartridges are placed in containers meeting DOT specifications. It is obvious to the service representative whether the items in the drums are filter cartridges. The drums may also contain approximately one inch of liquid which should either be clear or have a light brownish tint. If the amount of the liquid is greater than approximately one inch or if the liquid is a color other than light brown, the service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

b. Powder Residue:

The criteria for the acceptance of powder residue are consistency and color, the former being the more significant criterion of the two. A drum of powder residue should not contain any liquid. As the name implies, it will be dry or "powdery". If there is any liquid in the drum, the waste will be sampled for contamination in accordance with the procedures described above, or the waste will be rejected.

The powder residue is also inspected for color and should appear to be grayish-black. If the residue is not grayish-black in color, the service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

c. **Still Bottoms:**

The criteria for the acceptance of dry cleaning still bottoms are consistency and color. The waste should have a highly viscous, tar-like consistency. If the consistency of the waste is too thin or if there is more than one inch of free liquid in the drum, the waste will be sampled for contamination in accordance with the procedures described above, or will be rejected.

In addition to consistency, the still bottom waste is inspected for color. The waste should appear dark brown or black in color. If the waste is a different color, a service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

4. **Paint Wastes:**

Safety-Kleen handles both lacquer thinner waste generated from the paint gun cleaning process and paint waste.

a. **Lacquer Thinner Waste:**

The significant criterion for determining whether lacquer thinner waste will be accepted is volume. The solvent is provided to customers in pails which meet DOT requirements. The paint gun cleaning machine operates as a closed system where by there should never be a combined volume of more than the expected amount of solvent in the two collection pails. The solvent is pumped from a tube in a left hand pail (facing the machine) through the machine into the right hand pail. The left hand pail starts with clean solvent which will be pumped out as the machine is used to clean the spray guns. If a service representative discovers more than the expected amount of solvent in the two pails, or there is an overfill from the right hand pail, the waste will be sampled for contamination in accordance with the procedures described above, or the waste will be rejected.

b. **Paint Waste:**

b.1 **Liquid**

The significant criterion for the inspection of paint waste is consistency. The waste should contain no more than 30 percent solids. The service representative will insert a Colliwasa or similar sampling device into the drum. The sampling device should glide easily down to the bottom of the drum. The service representative will handle this waste as a Class 3 flammable waste. If there is resistance to the insertion of the glass tube, it is assumed that the level of solids is in excess of 30 percent and the service representative will reject the waste.

The contents of the glass tube are also visually examined for consistency and water content. The material should be a "free flowing" liquid, but should not contain a significant amount of water. If there is more than approximately 10 inches of water in the 3 foot tube (the water and paint will separate in the tube and thus can be measured) the waste will be rejected.

b.2 **Solid:**

For waste containing more than 30 percent solids the service representative will handle the waste as a Class 4 flammable waste.

5. **Photographic/Imaging Waste**

Photographic/Imaging waste is collected from facilities where one process is managed and the possibility of cross contamination is minimal. The sales representative inspects

the contents of the containers of photographic/imaging waste when the sales representative services the customer. The pH and silver content of the waste is checked at the time of service, and the waste is also inspected visually.

A.3 WASTE ANALYSES AT THE RECYCLE CENTER OR QUALIFIED LABORATORY

Analyses performed at the Safety-Kleen recycle centers are undertaken to safeguard the recycling process and to assure a product quality. The following section summarizes the waste analyses practiced at the recycle center for the hazardous materials returned from the Albuquerque branch. For each waste type stored at the branch, at least the following analyses must be performed annually (annual re-characterization analysis). If a particular waste stream is not managed at the service center during the previous year, no re-characterization analysis is performed. Copies of the results for the annual analyses must be maintained at the branch office for the life of the permit. A copy of the most recent re-characterization analysis is contained in Attachment A-1.

A.3.1 Solvents

- Flash point (must be greater than 90°F).

If the flashpoint is unacceptable, the Albuquerque Branch Manager will be notified immediately and the load will receive appropriate special handling. If the results are acceptable, the following tests will be performed:

- Volatile Organic Analysis, using EPA Methods 8015, 8021, 8260, or approved equivalents.
- Physical appearance, including bottom sediment and water content
- Specific gravity
- pH
- Distillation performance

If any of these tests yield unacceptable results or indicate solvent contamination outside the normal range, the Branch Manager will be notified immediately.

In addition to the tests listed above, which will be performed on a representative sample from every load received at the recycle center from the Albuquerque service center, a full Toxicology Characteristic Leaching Procedure (TCLP) analysis for all 40 constituents, (except for pesticides and herbicides) will be performed at least once each calendar year.

A.3.2 Solvent Tank Bottom Sludge and Free Water

- Flash point (Must be greater than 90°F).
- Analysis for content of lead, cadmium, and chromium.
- pH

As described above for solvent, a full TCLP analysis (except for the pesticides and herbicides) will be performed on a representative sample at least once each calendar year.

A.3.3 Immersion Cleaner Solvent

Containers of waste immersion cleaner are typically characterized at the recycle center using the following criteria:

- Flash point
- Physical appearance
- Specific gravity
- Percent water
- Volatile Organic Analysis (using EPA methods 8015, 8021, 8260 or approved equivalents)

If any of these tests yield unacceptable results or indicate solvent contamination outside the normal range, the Branch Manager will be notified immediately. As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of immersion cleaner at least once each calendar year.

A.3.4 Dry Cleaning Solvent/Still Bottoms

- Physical appearance
- Volatile Organic Analysis for Perchloroethylene (using EPA methods 8015, 8021, 8260 or approved equivalents)
- Specific gravity

If any of these tests yield unacceptable results or indicate contamination outside the normal range, the Branch Manager will be notified immediately.

As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of dry cleaning waste at least once each calendar year.

A.3.5 Paint Waste

Paint wastes are generally characterized at the recycle center using the following criteria:

- Metals
- Flash points
- Physical appearance
- Specific gravity
- Percent water
- Volatile organic analysis (using EPA methods 8015, 8021, 8260, or approved equivalents)

As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of paint waste at least once each calendar year.

A.4 WASTE ANALYSIS PLAN UPDATE

This waste analysis plan will be modified when a new waste product is collected or when sampling and material management methods change. Revision of the plan is typically the responsibility of the Safety-Kleen corporate or regional compliance offices. Any revision to this plan will be in accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.42)

A.5 LAND BAN NOTIFICATION/CERTIFICATION FORMS

In accordance with 40 CFR 268.7(a)(2), Safety-Kleen provides a one time written notice for wastes banned for land disposal with the initial shipment. No further notification is necessary unless the waste changes. Safety-Kleen will provide the written notice for wastes banned from landfills as follows:

1. Printing the Notice language on manifests - such as for core-business customers to branch shipments; or
2. Special forms for each regularly handled waste types (e.g., parts washer solvents, immersion cleaner, dry cleaning wastes, etc); or
3. A general form that must be completed for unique or non-standard waste streams. These wastes will only be handled on a transfer basis in accordance with 40 CFR 263.12.

The notice is required paperwork for all Safety-Kleen waste types. Further, all wastes stored at the facility will have been characterized and appropriate notification made of LDR requirements, regardless of where the waste was generated and a copy of the required notice maintained in the facility record. Shipments lacking the proper Notice will not be accepted by any Safety-Kleen facility. When a shipment with the proper Notice is received, the notice is kept in the files of the receiving facility with the manifest or with the pre-print if a manifest is not used.

A.6 OPERATING LOG RECORD

Safety-Kleen maintains an operating log record on site which includes the following information as it becomes available:

1. A description and the quantity of each hazardous waste received, and the method and date of its storage as required by Pt. V. Sec. 264, Appendix I;
2. The location of hazardous waste within the facility and quantity;
3. Records and results of waste analyses performed;
4. Summary reports and details of all incidents that require implementing the contingency plan;
5. Records and results of inspections;
6. Monitoring, testing or analytical data and corrective action where required;
7. For off-site facilities, Notices to generators as specified in 264.12(b);
8. Closure and post-closure cost estimates;
9. A certification by the permittee no less often than annually, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste; and
10. The land ban notices and requirements. These records are kept on file at the facility.

A.7 WASTE DETERMINATION FOR SUBPART BB AND CC COMPLIANCE

For purposes of waste determination, this facility utilizes knowledge of the wastes described in Section A.1, A.2 and A.3 above. For those hazardous wastes which are managed on a transfer basis, the Subpart CC regulation does not apply. However, the owner/operator may use knowledge of the waste based on information included in manifests, shipping papers, or waste certification notices to confirm waste determination for the generator or the ultimate receiving facility.

Based upon this knowledge, it has been determined that all wastes managed in tanks or containers at this facility may display an average volatile organic concentration of greater than 500 ppmw at the point of waste origination. Documentation of this knowledge is provided in Attachment A-1 (waste characterization analytical results), as required in 40 CFR 264.1063(d) and 264.1083. Therefore, hazardous wastes managed in tanks or containers at this facility shall be managed in accordance with the applicable Subpart CC standards.

CERTIFICATION STATEMENT

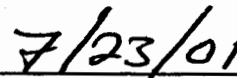
Albuquerque, New Mexico Service Center

NMD 000804294

The undersigned, being an authorized representative of Safety-Kleen Systems, Inc. the permit applicant, certifies under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Mike Crawford
Branch Manager



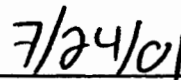
Date

ATTESTATION

The undersigned, attesting witness to the Certification Statement and this document dated July 27, 2001, of which this affidavit is a part, states that I am personally responsible for the preparation of the document, that I personally gathered or reviewed the information contained herein, and further that the information, to the best of my knowledge and belief is true, accurate, and complete.



Dan Czecholinski
Environmental Compliance Manager



Date

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LIST OF SUB-ATTACHMENTS

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- C-1 EXAMPLE INSPECTION FORMS
- C-2 SAFETY-KLEEN SUBPART CC COMPLIANCE PLAN
- C-3 EQUIPMENT INVENTORY FOR INSPECTIONS
- D-1 EXAMPLE TRAINING PLAN OUTLINE
- D-2 EXAMPLE EMPLOYEE JOB DESCRIPTIONS
- E-1 FACILITY DRAWINGS
- E-2 UNDERGROUND TANK INSTALLATION ASSESSMENT REPORT
- E-3 EXAMPLE CONTAINER SPECIFICATION
- F-1 EMERGENCY CONTACT INFORMATION
- F-2 EMERGENCY EQUIPMENT LIST, LOCATION PLAN AND EVACUATION PLAN
- F-3 EXAMPLE MATERIAL SAFETY DATA SHEETS, FOR TYPICAL SAFETY-KLEEN PRODUCTS

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

| | | | |
|--|----|-----|-------------------------|
| EPA REGION USE ONLY | | EPA | |
| FEDERAL GOVERNMENT OF THE UNITED STATES DEPARTMENT OF ENVIRONMENTAL PROTECTION REGIONAL OFFICE | | | |
| Name of Facility | | | |
| Address | | | |
| City | | | |
| State | | | |
| Zip | | | |
| <input type="checkbox"/> Hazardous Waste Site <input checked="" type="checkbox"/> Other | | | |
| NMD 000804294 | | | |
| SAFETY-KLEEN SYSTEMS INC. | | | |
| 2720 GIRARD BLVD NE | | | |
| ALBUQUERQUE NM 87107 - 1846 | | | |
| BERNALILLO | | | |
| P | 35 | 6 | 44N 106 36 46W 3 1 1977 |
| 2720 GIRARD BLVD NE | | | |
| ALBUQUERQUE NM 87101 - 1846 | | | |
| CRAWFORD MIKE | | | |
| BRANCH MANAGER 505 - 884 - 2277 | | | |
| 2720 GIRARD BLVD | | | |
| ALBUQUERQUE NM 87107 - 1846 | | | |

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

PA ID Number (enter from page 1)

Secondary ID Number (enter from page 1)

NMD 000804294

SAFETY-KLEEN SYSTEMS INC.

2720 GIRARD BLVD NE

ALBUQUERQUE

NM

87107

- 1846

505 - 884 - 2277

P

Yes

No

X

SAFETY-KLEEN SYSTEMS, INC.

1301 GERVAIS STREET

COLUMBIA

SC

29201

03 - 933 - 4200

P

Yes

No

X

7389 (description) Business Services, N.E.C.

5172

(description)

Petroleum Product Wholesale

5084 (description) Industrial Mach. & Equip.

5013

(description)

Auto Parts and Supplies

EPA ID Number (enter from page 4)

Secondary ID Number (enter from page 4)

NMD 000804294

Safety-Kleen is an international, service-oriented company whose customers are primarily engaged in automotive repair, industrial maintenance, and dry cleaning. The company, in operation since 1968, offers solvent collection and reclamation services to customers nationwide. The Albuquerque Service Center is a service branch which leases and services Safety-Kleen parts cleaning equipment and solvents to Safety-Kleen customers. The service branch also collects spent parts washer solvent, spent immersion cleaner, dry cleaning wastes (perchloroethylene), paint waste/lacquer thinner, photo/imaging wastes and spent industrial solvents. Once a sufficient quantity of materials is collected, the materials are transported to a recycle center, contract reclaimer or other permitted facility for treatment and/or disposal.

| PROCESS CODE | PROCESS | APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY | PROCESS CODE | PROCESS | APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY |
|--------------|--------------------------------|--|--------------|--|---|
| D79 | Disposal Injection Well | Gallons; Liters; Gallons Per Day; or Liters Per Day | T87 | Smelting, Melting, Or Refining Furnace | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| D80 | Landfill | Acre-feet of Hectare-meter | T88 | Titanium Dioxide Chloride Process | |
| D81 | Land Application | Acres of Hectares | T89 | Oxidation Reactor | |
| D82 | Ocean Disposal | Gallons Per Day or Liters Per Day | T90 | Methane Reforming Furnace | |
| D83 | Surface Impoundment | Gallons or Liters | T91 | Pulping Liquor Recovery Furnace | |
| D99 | Other Disposal | Any unit of measure listed below | T92 | Combustion Device Used in the Recovery of Sulfur Values From Spent Sulfuric Acid | |
| S01 | Container (barrel, drum, etc.) | Gallons or Liters | T93 | Halogen Acid Furnaces | |
| S02 | Tank | Gallons or Liters | T94 | Other Industrial Furnaces Listed in 40 CFR §260.10 | |
| S03 | Waste Pile | Gallons or Liters | | Containment | |
| S04 | Surface Impoundment | Gallons or Liters | | Building-Treatment | |
| S05 | | | | | |
| S06 | Containment | Cubic Yards or Cubic Meters | | | |
| S99 | Building-Storage | Any Unit of Measure Listed Below | | | |
| T01 | Other Storage | | | | |
| T02 | Treatment | | | | |
| T03 | Tank | Gallons Per Day or Liters Per Day | X01 | Miscellaneous (Subpart X): Open Burning/Open Incineration | Any Unit of Measure Listed Below |
| T04 | Surface Impoundment | Gallons Per Day or Liters Per Day | X02 | Mechanical Processing | Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; or Kilograms Per Hour |
| T05 | Incinerator | Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; or BTU's Per Hour | X03 | Thermal Unit | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| T06 | | | X04 | Geologic Repository | Cubic Yards or Cubic Meters |
| T07 | | | X99 | Other Subpart X | Any Unit of Measure Listed Below |
| T80 | Boiler | Gallons or Liters | | | |
| T81 | Cement Kiln | Gallons Per Day; Liters Per Day | | | |
| T82 | Lime Kiln | Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour | | | |
| T83 | Aggregate Kiln | | | | |
| T84 | Phosphate Kiln | | | | |
| T85 | Coke Oven | | | | |
| T86 | Blast Furnace | | | | |

| UNIT OF MEASURE | UNIT OF MEASURE CODE |
|------------------|----------------------|
| Gallons | G |
| Gallons Per Hour | E |
| Gallons Per Day | U |
| Liters | L |
| Liter Per Hour | H |
| Liters Per Day | V |

| UNIT OF MEASURE | UNIT OF MEASURE CODE |
|----------------------|----------------------|
| Short Tons Per Hour | D |
| Metric Tons Per Hour | W |
| Short Tons Per Day | N |
| Metric Tons Per Day | S |
| Pounds Per Hour | J |
| Kilograms Per Hour | R |

| UNIT OF MEASURE | UNIT OF MEASURE CODE |
|-----------------|----------------------|
| Cubic Yards | Y |
| Cubic Meters | C |
| Acres | B |
| Acre-feet | A |
| Hectares | Q |
| Hectare-meter | F |
| Btu's Per Hour | K |

DATA MANAGEMENT AND ANALYSIS

19-00000

1. *Journal of the American Medical Association*, 1997; 277: 1033-1036.

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PA ID Number (enter from page 1)

Secondary ID Number (enter from page 1)

NMD 000804294

Description of Hazardous Wastes

EPA HAZARDOUS WASTE NUMBER: Every hazardous waste has a unique EPA Hazardous Waste Number (HW number) which is assigned to it by the EPA. The HW number is a four digit number that identifies the waste. The first digit identifies the waste by its hazard characteristics. The second digit identifies the waste by its physical characteristics. The third and fourth digits identify the waste by its chemical characteristics.

ESTIMATED ANNUAL QUANTITY: The estimated annual quantity of waste is estimated in terms of the number of drums, tanks, or other containers. The quantity is estimated in terms of the number of drums, tanks, or other containers. The quantity is estimated in terms of the number of drums, tanks, or other containers.

UNIT OF MEASURE: The unit of measure is used to describe the quantity of waste. The unit of measure is used to describe the quantity of waste. The unit of measure is used to describe the quantity of waste.

| ENGLISH UNIT OF MEASURE | CODE | METRIC UNIT OF MEASURE | CODE |
|-------------------------|------|------------------------|------|
| POUNDS | P | KILOGRAMS | K |
| TONS | T | METRIC TONS | M |

HAZARDOUS WASTE NUMBER: Every hazardous waste has a unique EPA Hazardous Waste Number (HW number) which is assigned to it by the EPA. The HW number is a four digit number that identifies the waste. The first digit identifies the waste by its hazard characteristics. The second digit identifies the waste by its physical characteristics. The third and fourth digits identify the waste by its chemical characteristics.

HAZARDOUS WASTE

HAZARDOUS WASTE

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| HAZARDOUS WASTE NUMBER | ESTIMATED ANNUAL QUANTITY | UNIT OF MEASURE | HAZARDOUS WASTE NUMBER | ESTIMATED ANNUAL QUANTITY | UNIT OF MEASURE |
|------------------------|---------------------------|-----------------|------------------------|---------------------------|-----------------|
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| HAZARDOUS WASTE NUMBER | ESTIMATED ANNUAL QUANTITY | UNIT OF MEASURE | HAZARDOUS WASTE NUMBER | ESTIMATED ANNUAL QUANTITY | UNIT OF MEASURE |
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Sponsor's IB Number (enter from page 1)

NMD 000804294

| DEPARTMENT OF DEFENSE | | | | | | | | | | | |
|-----------------------|-----------------|----------------|---------------|-----------------|---------------------|-------------------|-------------------|--------------------|-------------------|---------------|---------------------|
| FUNDING DATA | | | | | | | | | | | |
| Activity | Activity Number | Activity Title | Activity Type | Activity Status | Activity Start Date | Activity End Date | Activity Duration | Activity Frequency | Activity Priority | Activity Risk | Activity Comments |
| F002 | 12,000 | T | S | 0 | 1 | | | | | | Included with above |
| F003 | | | | | | | | | | | Included with above |
| F005 | | | | | | | | | | | Included with above |
| D001 | | | | | | | | | | | Included with above |
| D004 | | | | | | | | | | | Included with above |
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| D039 | | | | | | | | | | | Included with above |
| D040 | | | | | | | | | | | Included with above |

CONFIDENTIAL

Included with above

Use print or type with ELITE type (12 characters per inch) in the unshaded areas only

1-B Number (enter from page 1)

2-B Number (enter from page 1)

NMD 000804294

Map

Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

Facility Drawing

All existing facilities must include a scale drawing of the facility (see instructions for more detail).

Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

Mike Crawford

Date Signed

7/24/01

Name and Official Title (type or print)

Mike Crawford, Branch Manager

Signature

Date Signed

Name and Official Title (type or print)

Signature

Mike Crawford

Date Signed

7/24/01

Name and Official Title (type or print)

Mike Crawford, Branch Manager

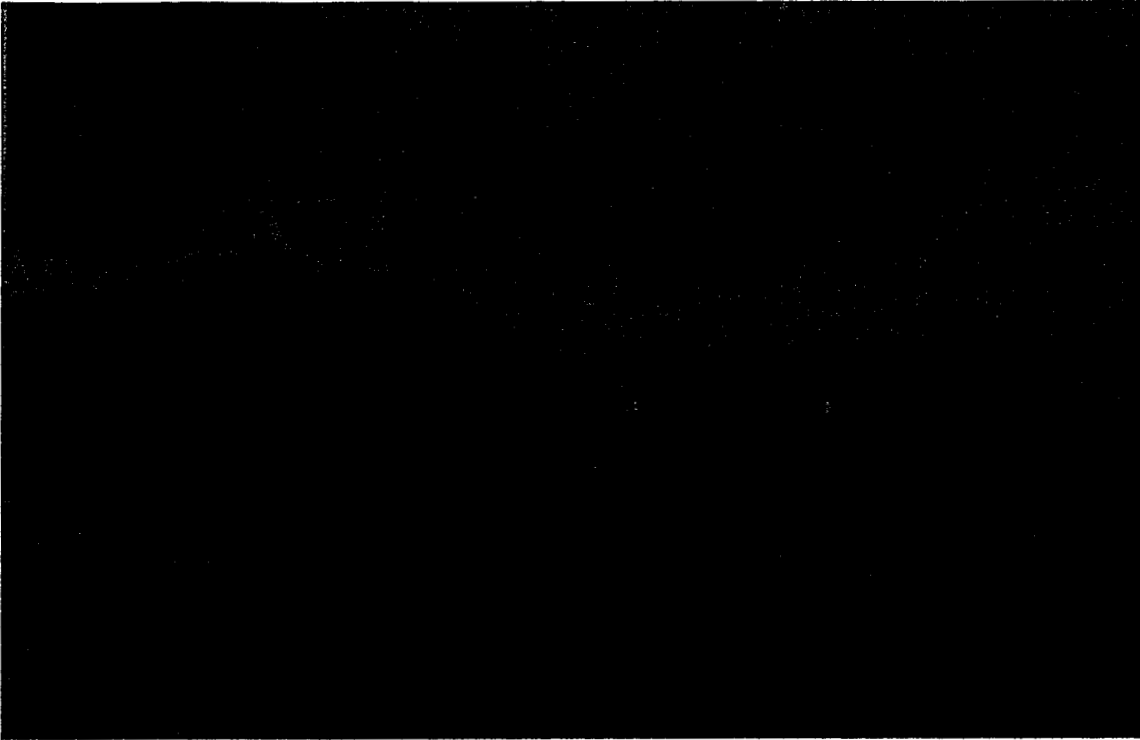
Signature

Date Signed

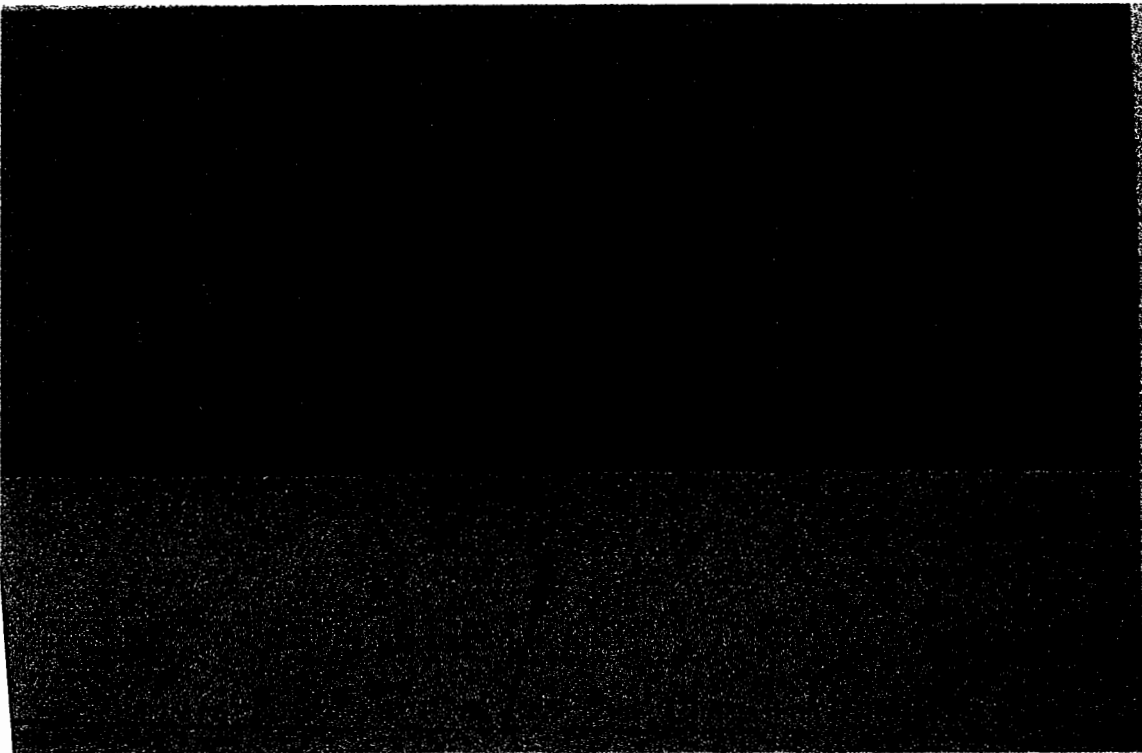
Name and Official Title (type or print)

Comments

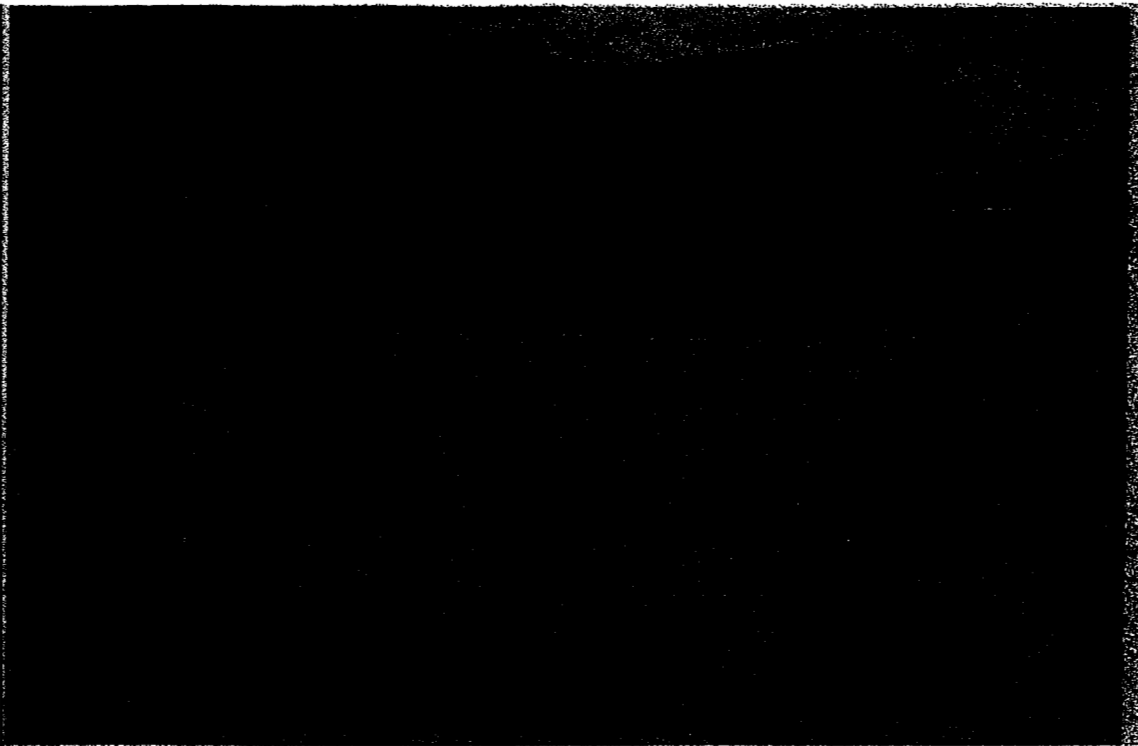
Note: Mail completed form to the appropriate EPA Regional or State Office. (refer to instructions for more information)



PHOTOGRAPH 1 :SAFETY-KLEEN SERVICE CENTER, ALBUQUERQUE,
NEW MEXICO



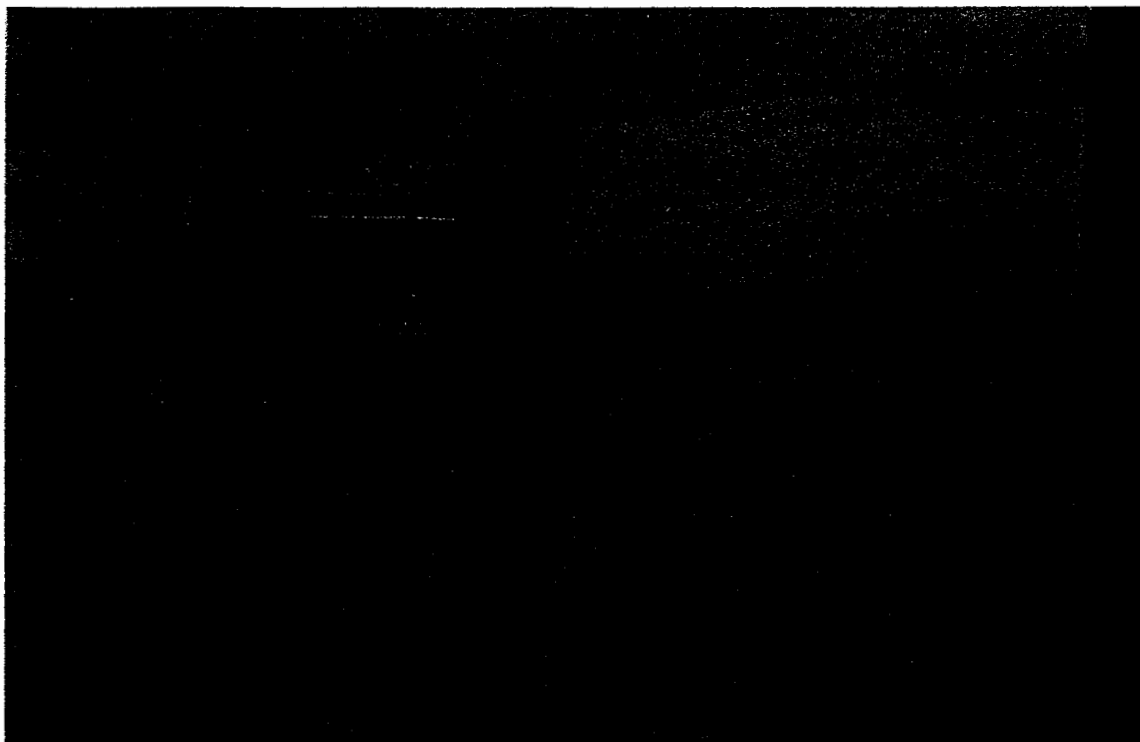
PHOTOGRAPH 2 :ENTRANCE TO WEST CONTAINER STORAGE AREA



PHOTOGRAPH 3 :RETURN/FILL STATION AND LOCATION OF
UNDERGROUND STORAGE TANKS



PHOTOGRAPH 4 :INSIDE OF RETURN/FILL STATION SHOWING ELEVATED
GRATING AND TWO DRUM WASHERS



PHOTOGRAPH 5 :FLAMMABLE STORAGE BUILDING



PHOTOGRAPH 6 :INSIDE OF FLAMMABLE STORAGE BUILDING

AMAFCA NORTH DIVERSION CHANNEL

134'

CRUSHED GRAVEL

RETURN/FILL
STATION

REMOVING FINE MATERIAL
UNDERGROUND
STORAGE TANK

LET VIEWS

CONCRETE SIDEWALK

GIRARD NE

A Trihydro Corporation representative conducted a field inspection to verify construction, equipment, components, dimensions and existing conditions on June 26, 2001. Items inaccessible to visual observation were not field verified during inspection. Notes have been added to document results and/or observed modifications (as appropriate) during the June 26, 2001 inspection.

N

0 30 ft.

SCALE

REVISIONS

| Date | By |
|------|----|
| | |
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| | |
| | |
| | |
| | |



TRIHYDRO
corporation
920 Sheridan Street
Laramie, Wyoming 82070

FIGURE 1
SITE PLAN
2720 GIRARD NE
ALBUQUERQUE, N.M.



SAFETY-KLEEN SYSTEMS, INC.
1301 Girard Street, Suite 200, Columbia, South Carolina, 29204
Phone (803) 650-4000

Drawn By: DJR

Checked By: BC

Scale: SHOWN

Date: 7/02/01

Reference:

023SITE



INTERVAL = 10 ft. USGS Photo Revised 1967 & 1972

FIGURE 2 :TOLUCA

ATTACHMENT A
WASTE ANALYSIS PLAN

July 27, 2001

Albuquerque, NM

WASTE ANALYSIS PLAN

ABSTRACT

| Waste Description | EPA Waste Code No. | Facility Capacity ¹ (gallons) | Annual Amount ² |
|----------------------------------|-------------------------------|---|----------------------------|
| Used Solvents | D001 ³ | 12,000 | 143 |
| Tank/Dumpster Bottom Sediment | D001 ³ | N/A | 3 |
| Used Immersion Cleaner | See Below ³ | 6,990 | 3 |
| Dry Cleaning Waste | F002 ³ | Included with Used Immersion Cleaner | 6 |
| Used Solvent (aqueous) | See Below ³ | Included with Used Immersion Cleaner | 3 |
| Paint Waste | D001, F003, F005 ³ | 9,650 | 14 |
| Photo Chemical Wastes | D011 | Included with Used Immersion Cleaner | 3 |

¹ The facility capacity is in gallons.

² The annual amount is in thousands of gallons.

³ and may include D004, D005, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043.

WASTE ANALYSIS PLAN

A.1 DESCRIPTION OF WASTES

Several types of waste result from the servicing of Safety-Kleen customers and the maintenance of the service center. It should be noted that the solvents managed at this facility are incompatible with strong oxidizers and reactive metals, none of which are present in the containers, container storage area, or the concrete sealant. The solvents are also compatible with one another. Analytical data for the wastes and specifications for the products are in Attachment A-1 and qualitative descriptions follow.

A.1.1 Wastes Resulting From the Parts Washer Service

Used solvents from parts washers is accumulated in a 12,000 gallon underground, double-walled storage tank via the return and fill station. Containers of used material are poured into a dumpster at the return and fill station which in turn empties into the tank. This waste handling method results in several types of solvent waste:

- a. Used solvent - The used solvent is removed from the tank by a tanker truck on a scheduled basis. About 5,000 gallons are removed every month. This waste is ignitable (D001) and may exhibit the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.
- b. Bottom sediment in the tank - Approximately once every two years, it is necessary to remove sediment and other heavy material from the bottom of the tank. A Safety-Kleen vacuum truck is generally used for this purpose. The sediment is ignitable (D001) and may exhibit the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.
- c. Dumpster Sediment - Sediment may also accumulate in the drum washers in the return/fill station. The sediment is manually removed and placed in containers. The dumpster sediment is representative of the waste codes described in items a and b above.
- d. Used Aqueous Parts Cleaning Solvent - may be bulked at the service center into containers that meet DOT specifications or may be co-mingled with the other solvent into the used solvent tank. It may be toxic using the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.
- e. Immersion Cleaner - is a different type of solvent that is not placed in the underground storage tank. Containers of immersion cleaner typically remain in

the drum in which it was originally used until it is received at the recycle center. Drums are placed in the drum storage area of the warehouse and are stacked no more than two-high in the drum storage area of the warehouse.

The immersion cleaner is a non-halogenated hydrocarbon mixture and may exhibit the toxic characteristics of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043.

A.1.2 Wastes Resulting From the Dry Cleaner Service

Dry cleaning wastes consist of used filter cartridges, powder residue from diatomaceous or other powder filter systems and still bottoms. These wastes are packaged on the customer's premises in containers meeting DOT specifications. The containers are then palletized, stacked two-high and placed in the container storage area of the warehouse. Approximately 95% of the dry cleaning solvent used is perchloroethylene (F002 and D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043) and the remaining 5% is trichloro-trifluoroethane (F002) and toxic using the characteristic leaching procedure (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043).

A.1.3 Wastes Resulting From the Paint Service

Paint wastes consist of various lacquer thinners (D001, F003, and F005) and may be toxic as per the characteristic leaching procedure (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043). The wastes are collected in containers which meet DOT requirements at the customer's place of business and containers are then palletized and stored in an enclosed concrete masonry building (the H-3 Flammable Storage Building).

A.1.4 Photographic/Imaging Wastes

Some photographic imaging wastes managed by the facility are not solid wastes per 40 CFR 261.2(c) because their hazardous constituent is reclaimed. Others are managed under the provisions of Subpart F of 40 CFR 266 – Recyclable Materials Utilized for Precious Metals Recovery. Imaging waste consists typically of three waste streams. Photo fixer solution is an aqueous solution used to etch photo film during processing. This material is characteristic for silver (D011). Safety-Kleen is able to recover the silver from the solution. Used Photo developer is an aqueous solution that exhibits no hazardous waste characteristics but may not be allowed to discharge into public wastewater treatment systems in some communities. Silver collection canisters are sent to a recycle center for reclamation. These canisters do not meet the definition of a hazardous waste as per 40 CFR 260.30(c) and are managed as a non-regulated material.

A.2 QUALITY CONTROL PROCEDURES

The used solvents are the primary feed stocks for the generation of Safety-Kleen solvent products. As a result, quality control of the used solvents is necessary to ensure that reclamation occurs in the safest and most efficient manner possible. The service center collects used solvents from approximately 1,100 customers, most of who are small quantity generators, and an estimated 14,000 drums containing recoverable solvents are returned to the service center each year for shipment to a reclaimer. With such large numbers of waste generators and waste shipments, performing detailed analyses at the service center is economically and logistically infeasible.

Furthermore, as discussed earlier in the Facility Description, all the materials collected at the service center are managed at all times in a closed loop system and are usually collected from a company with a single process. The composition and quality of these materials are known and Safety-Kleen's operating experiences have shown that the collected materials rarely deviate from company specifications. As an additional safeguard, Safety-Kleen personnel are instructed to inspect all materials before returning them to the service centers as described in Section A.2.1. This mode of operation has been proven to safeguard the recycling process and maintain a quality product.

However, in accordance with HWMR 206.B.3, Safety-Kleen will perform physical and chemical analysis of a waste stream when it is notified or has reason to believe that the process or operation generating the waste has changed, or when the result of inspection indicates that the waste collected does not match that designated. It is Safety-Kleen's practice that suspected non-conforming material must not be accepted until a full analysis has been conducted. If a container with questionable contents is returned to the service center, a sample will be taken and analysis will be performed at the recycling center, Safety-Kleen Tech Center (Elk Grove Village, Illinois) or other qualified lab according to the procedures outlined in Section A.3 of this attachment. The Branch Manager will be notified of any contamination that may have occurred.

Safety-Kleen trains personnel to verify the physical characteristics of the wastes at several points in the management of the solvent. These procedures are described briefly below.

Safety-Kleen controls the use and management of its solvents by:

1. Limiting the solvents stored to those compatible with one another and their containers;
2. Limiting the uses of each type of solvent for (example, dry cleaning waste is only collected from dry cleaner shops);
3. Determining the customer's type of business (i.e., the SIC code is recorded) and the purpose for which the customer will use the machine;
4. Training customers to use the machines properly;
5. Training employees to inspect the physical characteristics of used solvent and determine whether it is acceptable;

6. When waste is collected from a customer, indicate on the service document whether the used solvent meets Safety-Kleen's acceptance criteria;
7. Marking each container with the customer's name, address, and EPA I.D. number (if available). This information remains on containerized waste until it is accepted at the reclamation facility;
8. Keeping a record of each incoming and outgoing shipment in the operating log; and

Safety-Kleen's customers sign a service document containing the following information:

- a. the name, address and EPA I.D. number of the facility to which the waste is being shipped;
- b. the customer's name, address and EPA I.D. number (if available); and
- c. the description and amount of Safety-Kleen solvent waste generated.

In addition, each incoming and outgoing shipment is recorded in the facility's operating log.

If a waste is rejected at the time of service, the customer will be given a choice as to whether he will dispose of the waste himself or require Safety-Kleen's assistance. If he requests Safety-Kleen's assistance, a sample will be drawn using a Coli-wasa tube or similar sampling device to ensure representative samples. The sample will be analyzed for flash point and volatile organic compounds. If this analysis does not adequately define the constituents, additional analyses will be performed as necessary (e.g., semi-volatile organic compounds, PCBs, etc.).

The laboratory sends waste analyses results to the service center. If through the additional analysis the waste is determined to be acceptable at the branch, it will be relabeled, manifested and then managed with the other wastes. If it is determined through the additional analysis to not be acceptable, the waste will either be: (a) managed at the Service Center on a 10 day transfer basis and manifested to a properly permitted reclamation or disposal facility, or (b) manifested and shipped directly to a properly permitted reclamation or disposal facility. The analytical results from the additional characterization analysis will be used to appropriately manage the waste. The Branch Manager has the right to refuse any further service to a business which has returned waste that does not meet acceptable criteria.

A.2.1 Qualitative Waste Analysis

- a. General Inspection Procedures:
Safety-Kleen visually inspects each drum of waste when it is collected at the customer's location. Safety-Kleen examines the waste for volume, appearance, consistency and odor and is intimately familiar with the characteristics of the waste it receives. Based on the known waste characteristics, Safety-Kleen has established the specific acceptance criteria set forth below, to be used by Safety-Kleen personnel in their visual inspections. These inspection procedures allow Safety-Kleen to ensure that the waste being picked up meets appropriate acceptance criteria.

If a particular drum of waste does not meet the acceptance criteria, the Safety-Kleen service representative will either (1) sample the waste for testing at a Safety-Kleen laboratory to determine whether the waste has been contaminated; or (2) reject the waste. In the event the waste is not sampled, Safety-Kleen will notify the generator's State Agency that is authorized to implement the RCRA hazardous waste management program (or EPA if the RCRA program has not been delegated to the State).

If the waste is sampled for further analysis, the service representative will collect a sample, then seal the drum and label it as hazardous waste. The drum is left with the customer pending the results of the laboratory tests. The laboratory testing initially involves analyzing the suspect waste for flash-point and the presence of volatile organic compounds. Pending those results, additional constituents may also be analyzed. The costs of any sampling and testing performed as a result of the waste failing to meet the acceptance criteria, will be borne by the customer.

If the laboratory analysis reveals that the sampled waste is not contaminated, Safety-Kleen will accept the waste from the customer. If the laboratory confirms that the waste is contaminated, the generator will be responsible for securing an alternate means of disposal or they may contract with Safety-Kleen to handle the waste on a ten-day transfer basis.

b. **Waste Specific Criteria:**

The following is a description of the specific acceptance criteria for each waste stream.

1. **Used solvent:**

The acceptance criteria for determining by visual inspection whether used solvent has been contaminated are volume, odor and color, the most significant of which is volume. If the volume of waste in a given drum exceeds the specified level, the Safety-Kleen service representative will conduct an inquiry of the customer's operation and handling procedures. Contingent on the customer's responses, the solvent may be accepted, a sample of the waste may be collected for laboratory testing as described above, or the waste may be rejected.

In addition to the volume criterion, the odor of the used solvent may typically indicate whether the waste has been contaminated. Used solvent has a distinctive odor. The service representatives are expressly instructed not to deliberately sniff the waste. However, if the solvent has been contaminated the service representative may notice a difference in the odor when he services the machine.

The used solvent is also visually inspected for its color. Unused solvent typically has a clear or greenish tint. As the solvent is used, it turns brown in color. The more it is used, the darker brown it becomes, until it is almost black. In the case of a print shop, the solvent may be clear, green, brown, black, or many colors. Therefore, if the used solvent does

not appear to be the expected color, the service representative will sample the waste for possible contamination as described above, or will reject the waste.

2. Immersion Cleaner:

The criteria for the inspection of used immersion cleaner are volume and color. If the volume of waste exceeds the specified level a sample will be tested for contamination following the procedures described above or the waste will be rejected.

Unused immersion cleaner is amber in color. As the solvent is used, it turns brown in color. The more it is used, the darker brown it becomes, until it is almost black. If the used immersion cleaner does not appear to be the expected color, the service representative will either sample the waste for possible contamination as described above, or reject the drum of waste.

3. Dry Cleaner Wastes:

Dry cleaner wastes normally consist of used filter cartridges, powder residue, and still bottoms.

a. Used Filter Cartridges:

Used filter cartridges are placed in containers meeting DOT specifications. It is obvious to the service representative whether the items in the drums are filter cartridges. The drums may also contain approximately one inch of liquid which should either be clear or have a light brownish tint. If the amount of the liquid is greater than approximately one inch or if the liquid is a color other than light brown, the service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

b. Powder Residue:

The criteria for the acceptance of powder residue are consistency and color, the former being the more significant criterion of the two. A drum of powder residue should not contain any liquid. As the name implies, it will be dry or "powdery". If there is any liquid in the drum, the waste will be sampled for contamination in accordance with the procedures described above, or the waste will be rejected.

The powder residue is also inspected for color and should appear to be grayish-black. If the residue is not grayish-black in color, the service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

c. **Still Bottoms:**

The criteria for the acceptance of dry cleaning still bottoms are consistency and color. The waste should have a highly viscous, tar-like consistency. If the consistency of the waste is too thin or if there is more than one inch of free liquid in the drum, the waste will be sampled for contamination in accordance with the procedures described above, or will be rejected.

In addition to consistency, the still bottom waste is inspected for color. The waste should appear dark brown or black in color. If the waste is a different color, a service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

4. **Paint Wastes:**

Safety-Kleen handles both lacquer thinner waste generated from the paint gun cleaning process and paint waste.

a. **Lacquer Thinner Waste:**

The significant criterion for determining whether lacquer thinner waste will be accepted is volume. The solvent is provided to customers in pails which meet DOT requirements. The paint gun cleaning machine operates as a closed system where by there should never be a combined volume of more than the expected amount of solvent in the two collection pails. The solvent is pumped from a tube in a left hand pail (facing the machine) through the machine into the right hand pail. The left hand pail starts with clean solvent which will be pumped out as the machine is used to clean the spray guns. If a service representative discovers more than the expected amount of solvent in the two pails, or there is an overfill from the right hand pail, the waste will be sampled for contamination in accordance with the procedures described above, or the waste will be rejected.

b. **Paint Waste:**

b.1 **Liquid**

The significant criterion for the inspection of paint waste is consistency. The waste should contain no more than 30 percent solids. The service representative will insert a Colliwasa or similar sampling device into the drum. The sampling device should glide easily down to the bottom of the drum. The service representative will handle this waste as a Class 3 flammable waste. If there is resistance to the insertion of the glass tube, it is assumed that the level of solids is in excess of 30 percent and the service representative will reject the waste.

The contents of the glass tube are also visually examined for consistency and water content. The material should be a "free flowing" liquid, but should not contain a significant

amount of water. If there is more than approximately 10 inches of water in the 3 foot tube (the water and paint will separate in the tube and thus can be measured) the waste will be rejected.

b.2 Solid:

For waste containing more than 30 percent solids the service representative will handle the waste as a Class 4 flammable waste.

5. Photographic/Imaging Waste

Photographic/Imaging waste is collected from facilities where one process is managed and the possibility of cross contamination is minimal. The sales representative inspects the contents of the containers of photographic/imaging waste when the sales representative services the customer. The pH and silver content of the waste is checked at the time of service, and the waste is also inspected visually.

A.3 WASTE ANALYSES AT THE RECYCLE CENTER

Analyses performed at the Safety-Kleen recycle centers are undertaken to safeguard the recycling process and to assure a product quality. The following section summarizes the waste analyses practiced at the recycle center for the hazardous materials returned from the Albuquerque branch. For each waste type stored at the branch, at least the following analyses must be performed annually (annual re-characterization analysis). If a particular waste stream is not managed at the service center during the previous year, no re-characterization analysis is performed. Copies of the results for the annual analyses must be maintained at the branch office for the life of the permit. A copy of the most recent re-characterization analysis is contained in Attachment A-1.

A.3.1 Solvents

- Flash point (must be greater than 90°F).

If the flashpoint is unacceptable, the Albuquerque Branch Manager will be notified immediately and the load will receive appropriate special handling. If the results are acceptable, the following tests will be performed:

- Volatile Organic Analysis, using EPA Methods 8015, 8021, 8260, or approved equivalents.
- Physical appearance, including bottom sediment and water content
- Specific gravity

- pH
- Distillation performance

If any of these tests yield unacceptable results or indicate solvent contamination outside the normal range, the Branch Manager will be notified immediately.

In addition to the tests listed above, which will be performed on a representative sample from every load received at the recycle center from the Albuquerque service center, a full Toxicology Characteristic Leaching Procedure (TCLP) analysis for all 40 constituents, (except for pesticides and herbicides) will be performed at least once each calendar year.

A.3.2 Solvent Tank Bottom Sludge and Free Water

- Flash point (Must be greater than 90°F).
- Analysis for content of lead, cadmium, and chromium.
- pH

As described above for solvent, a full TCLP analysis (except for the pesticides and herbicides) will be performed on a representative sample at least once each calendar year.

A.3.3 Immersion Cleaner Solvent

Containers of waste immersion cleaner are typically characterized at the recycle center using the following criteria:

- Flash point
- Physical appearance
- Specific gravity
- Percent water
- Volatile Organic Analysis (using EPA methods 8015, 8021, 8260 or approved equivalents)

If any of these tests yield unacceptable results or indicate solvent contamination outside the normal range, the Branch Manager will be notified immediately. As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of immersion cleaner at least once each calendar year.

A.3.4 Dry Cleaning Solvent/Still Bottoms

- Physical appearance
- Volatile Organic Analysis for Perchloroethylene (using EPA methods 8015, 8021, 8260 or approved equivalents)
- Specific gravity

If any of these tests yield unacceptable results or indicate contamination outside the normal range, the Branch Manager will be notified immediately.

As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of dry cleaning waste at least once each calendar year.

A.3.5 Paint Waste

Paint wastes are generally characterized at the recycle center using the following criteria:

- Metals
- Flash points
- Physical appearance
- Specific gravity
- Percent water
- Volatile organic analysis (using EPA methods 8015, 8021, 8260, or approved equivalents)

As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of paint waste at least once each calendar year.

A.4 WASTE ANALYSIS PLAN UPDATE

This waste analysis plan will be modified when a new waste product is collected or when sampling and material management methods change. Revision of the plan is typically the responsibility of the Safety-Kleen corporate or regional compliance offices.

A.5 LAND BAN NOTIFICATION/CERTIFICATION FORMS

In accordance with 40 CFR 268.7(a)(2), Safety-Kleen provides a one time written notice for wastes banned for land disposal with the initial shipment. No further notification is necessary unless the waste changes. Safety-Kleen will provide the written notice for wastes banned from landfills as follows:

1. Printing the Notice language on manifests - such as for core-business customers to branch shipments; or
2. Special forms for each regularly handled waste types (e.g., parts washer solvents, immersion cleaner, dry cleaning wastes, etc); or
3. A general form that must be completed for unique or non-standard waste streams. These wastes will only be handled on a transfer basis in accordance with 40 CFR 263.12.

The notice is required paperwork for all Safety-Kleen waste types. Shipments lacking the proper Notice will not be accepted by any Safety-Kleen facility. When a shipment with the proper Notice is received, the notice is kept in the files of the receiving facility with the manifest or with the pre-print if a manifest is not used.

A.6 OPERATING LOG RECORD

Safety-Kleen maintains an operating log record on site which includes the following information as it becomes available:

1. A description and the quantity of each hazardous waste received, and the method and date of its storage as required by Pt. V. Sec. 264, Appendix I;
2. The location of hazardous waste within the facility and quantity;
3. Records and results of waste analyses performed;
4. Summary reports and details of all incidents that require implementing the contingency plan;
5. Records and results of inspections;
6. Monitoring, testing or analytical data and corrective action where required;
7. For off-site facilities, Notices to generators as specified in 264.12(b);
8. Closure and post-closure cost estimates;
9. A certification by the permittee no less often than annually, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste; and

10. The land ban notices and requirements. These records are kept on file at the facility.

A.7 WASTE DETERMINATION FOR SUBPART BB AND CC COMPLIANCE

For purposes of waste determination, this facility utilizes knowledge of the wastes described in Section A.1, A.2 and A.3 above. For those hazardous wastes which are managed on a transfer basis, the Subpart CC regulation does not apply. However, the owner/operator may use knowledge of the waste based on information included in manifests, shipping papers, or waste certification notices to confirm waste determination for the generator or the ultimate receiving facility.

Based upon this knowledge, it has been determined that all wastes managed in tanks or containers at this facility may display an average volatile organic concentration of greater than 500 ppmw at the point of waste origination. Documentation of this knowledge is provided in Attachment A-1 (waste characterization analytical results), as required in 40 CFR 264.1063(d) and 264.1083. Therefore, hazardous wastes managed in tanks or containers at this facility shall be managed in accordance with the applicable Subpart CC standards.

ATTACHMENT A-1
ANNUAL RE-CHARACTERIZATION DATA

July 27, 2001

Albuquerque, NM

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001 ANNUAL RECHARACTERIZATION WASTE CODES INAL WASTE CODE ASSIGNMENTS EXCLUDING MN

| WASTE STREAMS | | WASTE CODE CHANGES | | | |
|---------------------------------|--|--|--|------------------------------|---------------------------------|
| 00 SKDOT | | 2000 Waste Codes (From 1999 Data) | 2001 Waste Codes (From 2000 Data) | Changes from 2000 to 2001 | 2001 SKDOT # |
| 39 | Aqueous Brake Cleaner | D039 | D039 | No Change | 839 |
| 10070 | Aqueous Parts Washer | D039 | D039 | No Change | 10070 |
| 11478 - Liquid 11479 - Solid | Branch Contaminated Debris | F001, F002, F003, F005, D001, D006, D007, D008, D011, D018, D022, D027, D028, D035, D039, D040 | F001, F002, F003, F005, D001, D006, D007, D008, D011, D018, D022, D027, D028, D035, D039, D040 | No Change | 11478 - Liquid 11479 - Solid |
| 1808 | Immersion Cleaner (IC 699) | D006, D008, D027, D039, D040 | D006, D008, D027, D039, D040 | No Change | 1808 |
| 704 801 (RQ) | Parts Washer Solvent - 105 Recycled | D001, D018, D039 D040 | D001, D018, D039 D040 | No Change | 704 801 (RQ) |
| 11657 (Bulk) | Bulked Solvents / Combination of 105 / 150 / possibly Aqueous | D001, D018, D039 D040 | D001, D018, D039 D040 | No Change | 11657 (Bulk) |
| 11656 | Parts Washer Solvent Sludge/Dumpster Mud | D001, D039 | D001, D039 | No Change | 11656 |
| 11659 | ** Parts Washer Solvent Tank Bottoms | D039 | D039 | No Change | 11659 |
| 717 | Premium Gold Parts Washer Solvent -150 | D039 | D039 | No Change | 717 |
| 11658 | S-K Paint Gun Cleaner | F005, F003, D001 D018, D035, D039, D040 | F005, F003, D001 D018, D035, D039, D040 | No Change | 11658 |
| 12628 | *** Paint Wastes Other | F005, F003, D001, D008, D018, D035, D039, D040 | F005, F003, D001, D008, D018, D035, D039, D040 | No Change | 12628 |
| 12627 | Dry Cleaner Bottoms | F002, D007, D039, D040 | F002, D007, D039, D040 | No Change | 12627 |
| 12626 | Dry Cleaner Filter Powder | F002, D039, D040 | F002, D039, D040 | No Change | 12626 |
| 569 | * Dry Cleaning Naphtha (Mineral Spirits) | D001, D039 | D001, D039 | No Change | 569 |

* Under consideration for removal from recharacterization.

** Parts washer solvent tank bottoms are SK-generated wastes from the cleanout of solvent storage tanks.
Safety-Kleen does not accept this waste stream from non-SK generators.

*** This DOT is acceptable to use for any size container of paint waste. For those states that require 30-gal paint waste to be listed separately, use SK DOT 12630;
for states that require 55-gal paint waste to be listed separately, use SK DOT 12631.

WASTE AQUEOUS CLEANERS

Total # of Samples: 84

Physical Properties

TCLP Metals Analysis (ppm)

| Waste Codes: | | D002 | | D001 | D004 | | D005 | D006 | D007 | D008 | D009 | D010 | D011 |
|--------------|-------|-----------|------|------------|-------|--|--------|-------------|-------------|-------------|---------|--------|--------|
| Parameter: | | pH | SG | FP | As | | Ba | Cd | Cr | Pb | Hg | Se | Ag |
| Reg. Limit: | | <2; >12.5 | NA | < 140 | 5 | | 100 | 1 | 5 | 5 | 0.2 | 1 | 5 |
| LAB | SITE | | | | | | | | | | | | |
| SK-1999 | NY-NA | 9.89 | 0.91 | >200 | <5.00 | | 5.01 | <0.500 | 4.3 | <u>68.8</u> | <0.10 | <0.45 | <0.500 |
| SK-1999 | NY-NA | 7.69 | 0.90 | >200 | <5.00 | | 2.51 | <0.500 | <u>8.61</u> | <u>68.1</u> | <0.10 | <0.45 | <0.500 |
| SK-1999 | NY-NA | 9.73 | 1.03 | >200 | <5.00 | | 1.68 | <0.500 | <0.500 | <4.00 | <0.100 | <0.452 | <0.500 |
| SK-1999 | NY-NA | 9.7 | 1.03 | >142 | <5.00 | | 0.704 | <0.500 | <0.500 | <4.00 | <0.100 | <0.452 | <0.500 |
| SK-1999 | NY-NA | 10.34 | 1.04 | >200 | <5.00 | | 8.4 | 0.771 | <0.500 | <4.00 | <0.100 | <0.452 | <0.500 |
| SK-1999 | NY-S | 10.28 | 1.00 | >200 | <5.00 | | 4.04 | 0.804 | 0.867 | <u>16.4</u> | <0.10 | <0.45 | <0.500 |
| SK-1999 | NY-S | 9.53 | 0.92 | 149 | <5.00 | | 0.155 | <0.050 | <0.050 | <u>48.3</u> | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-S | 9.37 | 1.04 | >200 | <5.00 | | 3.52 | 0.697 | 0.928 | <u>13.8</u> | <0.10 | <0.45 | <0.500 |
| SK-1999 | NY-S | 9.78 | 1.03 | 111 | <5.00 | | 2.26 | <0.500 | <0.500 | <4.00 | <0.100 | <0.452 | <0.500 |
| SK-1999 | NY-S | 10.33 | 1.00 | >200 | <5.00 | | 10.4 | <0.500 | <0.500 | <4.00 | <0.100 | <0.452 | <0.500 |
| SK-1999 | NY-S | 10.34 | 1.01 | >200 | <5.00 | | 10.3 | <0.500 | <0.500 | <4.00 | <0.100 | <0.452 | <0.500 |
| SK-1999 | OR-C | 10.43 | 0.98 | >200 | <5.00 | | 2.84 | <0.500 | <0.500 | <4.00 | <0.100 | <0.452 | <0.500 |
| SK-1999 | TX-D | 9.84 | 0.99 | >200 | <5.00 | | 1.41 | <u>1.24</u> | <0.500 | <4.00 | <0.100 | <0.452 | <0.500 |
| SK-2000 | GA-C | 7.90 | 1.01 | >200 | <5.00 | | 1.17 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | GA-GC | 11.30 | 1.08 | >200 | <5.00 | | 6.04 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | GA-MO | 11.02 | 0.92 | >200 | <5.00 | | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | KS-DC | 10.71 | 1.06 | >200 | <5.00 | | 9.02 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | KS-E | 9.20 | 1.01 | >200 | <5.00 | | 1.79 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | KS-W | 8.32 | 1.00 | >200 | <5.00 | | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | MO-SC | 7.42 | 1.01 | >200 | <5.00 | | 2.1 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | ND-B | 9.90 | 1.10 | >200 | <5.00 | | <0.500 | <0.500 | <0.500 | <4.00 | <0.040 | <0.008 | <0.500 |
| SK-2000 | NE-GE | 10.12 | 1.02 | >200 | <5.00 | | 0.926 | <0.500 | <0.500 | <4.00 | <0.100 | <0.452 | <0.500 |
| SK-2000 | NM-A | 8.80 | 1.05 | <u>69</u> | <5.00 | | 12.7 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | NM-A | 10.00 | 1.00 | >200 | <5.00 | | 7.46 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | NY-A | 11.78 | 1.01 | >200 | <5.00 | | 5.54 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | NY-A | 10.66 | 1.01 | >200 | <5.00 | | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | NY-A | 10.66 | 1.01 | >200 | <5.00 | | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | NY-C | 9.42 | 1.04 | >200 | <5.00 | | 1.63 | <0.500 | <0.500 | <4.00 | <0.10 | <1.00 | <0.500 |
| SK-2000 | NY-L | 9.79 | 1.02 | >200 | <5.00 | | 1.49 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | NY-L | 7.28 | 0.87 | >200 | <5.00 | | 0.693 | 0.588 | <0.500 | 4.9 | <0.10 | <0.45 | <0.500 |
| SK-2000 | NY-L | 9.79 | 0.98 | >200 | <5.00 | | 0.893 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | NY-L | 9.47 | 0.93 | 180 | <5.00 | | 1.57 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | NY-L | 9.20 | 0.98 | >200 | <5.00 | | 1.68 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | NY-L | 10.57 | 1.01 | <u>120</u> | <5.00 | | 1.17 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |

WASTE AQUEOUS CLEANERS

Total # of Samples: 84

| Physical Properties | | TCLP Metals Analysis (ppm) | | | | | | | | | |
|---------------------|-----------|----------------------------|--------|------|-------|-------|-------|-------|------|------|----|
| Waste Codes: | D002 | D001 | D004 | D005 | D006 | D007 | D008 | D009 | D010 | D011 | |
| Parameter: | pH | SG | FP | As | Ba | Cd | Cr | Pb | Hg | Se | Ag |
| Reg. Limit: | <2; >12.5 | NA | < 140 | 5 | 100 | 1 | 5 | 5 | 0.2 | 1 | 5 |
| LAB | SITE | | | | | | | | | | |
| Maximum | 11.78 | 1.36 | 180.00 | ND | 12.7 | 1.24 | 8.61 | 68.8 | 0 | ND | ND |
| Minimum | 7.24 | 0.87 | 69.00 | ND | 0.155 | 0.541 | 0.066 | 0.445 | 0 | ND | ND |
| 90th UCL for | 10.15 | 1.02 | >200 | ND | 2.51 | ND | ND | ND | ND | ND | ND |
| 50th Percentile | 10.00 | NA | >200 | | 1.73 | | | | | | |

WASTE AQUEOUS CLEANERS

Total # of Samples: 84

TCLP Semi-Volatiles Analysis (ppm)

| Waste Codes: | | D026 | D030 | D032 | D033 | D034 | D036 | D037 | D038 | D041 | D042 |
|--------------|-------|--------|---------|----------|-------------|---------|-----------|------------|----------|-----------|-----------|
| Parameter: | | cresol | 2,4-DNT | Cl6-benz | Cl6-1,3-but | Cl6-eth | nitrobenz | Cl5-phenol | pyridine | 2,4,6-TCP | 2,4,6-TCP |
| Reg Limit: | | 200 | 0.13 | 0.13 | 0.5 | 3 | 2 | 100 | 5 | 400 | 2 |
| LAB | SITE | | | | | | | | | | |
| SK-1999 | NY-NA | <460 | | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | NY-NA | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | NY-NA | <5.8 | <0.11 | <0.093 | <0.31 | <0.30 | <0.27 | <2.3 | <0.13 | <3.4 | <1.6 |
| SK-1999 | NY-NA | <5.8 | <0.11 | <0.093 | <0.31 | <0.30 | <0.27 | <2.3 | <0.13 | <3.4 | <1.6 |
| SK-1999 | NY-NA | <5.8 | <0.11 | <0.093 | <0.31 | <0.30 | <0.27 | <2.3 | <0.13 | <3.4 | <1.6 |
| SK-1999 | NY-S | <5.8 | <0.11 | <0.093 | <0.31 | <0.30 | <0.27 | <2.3 | <0.13 | <3.4 | <1.6 |
| SK-1999 | NY-S | <0.228 | <0.067 | <0.11 | <0.11 | <0.10 | <0.97 | <0.24 | <0.29 | <0.10 | <0.15 |
| SK-1999 | NY-S | <5.8 | <0.11 | <0.093 | <0.31 | <0.30 | <0.27 | <2.3 | <0.13 | <3.4 | <1.6 |
| SK-1999 | NY-S | <5.8 | <0.11 | <0.093 | <0.31 | <0.30 | <0.27 | <2.3 | <0.13 | <3.4 | <1.6 |
| SK-1999 | NY-S | <5.8 | <0.11 | <0.093 | <0.31 | <0.30 | <0.27 | <2.3 | <0.13 | <3.4 | <1.6 |
| SK-1999 | NY-S | <5.8 | <0.11 | <0.093 | <0.31 | <0.30 | <0.27 | <2.3 | <0.13 | <3.4 | <1.6 |
| SK-1999 | OR-C | <5.8 | <0.11 | <0.093 | <0.31 | <0.30 | <0.27 | <2.3 | <0.13 | <3.4 | <1.6 |
| SK-1999 | TX-D | <5.8 | <0.11 | <0.093 | <0.31 | <0.30 | <0.27 | <2.3 | <0.13 | <3.4 | <1.6 |
| SK-2000 | GA-C | <10.0 | <0.13 | <0.13 | <0.20 | <0.50 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-2000 | GA-GC | <100 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.54 | <0.50 | <0.50 |
| SK-2000 | GA-MO | <10.0 | <0.13 | <0.13 | <0.20 | <0.50 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-2000 | KS-DC | <10.0 | <0.13 | <0.13 | <0.20 | <0.50 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-2000 | KS-E | <10.0 | <0.13 | <0.13 | <0.20 | <0.50 | <0.40 | <5.0 | <1.2 | <5.0 | <2.0 |
| SK-2000 | KS-W | <10.0 | <0.13 | <0.13 | <0.20 | <0.50 | <0.40 | <5.0 | <1.2 | <5.0 | <2.0 |
| SK-2000 | MO-SC | <10.0 | <0.13 | <0.13 | <0.20 | <0.50 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-2000 | ND-B | <0.20 | <0.020 | <0.020 | <0.10 | <0.10 | <0.10 | <0.10 | <0.11 | <0.10 | <0.10 |
| SK-2000 | NE-GE | <10.0 | <0.13 | <0.13 | <0.20 | <0.50 | <0.40 | <5.0 | <1.2 | <5.0 | <2.0 |
| SK-2000 | NM-A | <10.0 | <0.13 | <0.13 | <0.20 | <0.50 | <0.40 | <5.0 | <1.2 | <5.0 | <2.0 |
| SK-2000 | NM-A | <10.0 | <0.13 | <0.13 | <0.20 | <0.50 | <0.40 | <5.0 | <1.2 | <5.0 | <2.0 |
| SK-2000 | NY-A | <10.0 | <0.13 | <0.13 | <0.20 | <0.50 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-2000 | NY-A | <20.0 | <0.26 | <0.26 | <0.40 | <1.0 | <0.80 | <10.0 | <2.0 | <10.0 | <4.0 |
| SK-2000 | NY-A | <20.0 | <0.26 | <0.26 | <0.40 | <1.0 | <0.80 | <10.0 | <2.0 | <10.0 | <4.0 |
| SK-2000 | NY-C | <10.0 | <0.13 | <0.13 | <0.20 | <0.50 | <0.40 | <5.0 | <1.1 | <5.0 | <2.0 |
| SK-2000 | NY-L | <10.0 | <0.13 | <0.13 | <0.20 | <0.50 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-2000 | NY-L | <100.0 | <1.3 | <1.3 | <2.0 | <5.0 | <4.0 | <50 | <10.0 | <50 | <20 |
| SK-2000 | NY-L | <10.0 | <0.13 | <0.13 | <0.20 | <0.50 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-2000 | NY-L | <10.0 | <0.13 | <0.13 | <0.20 | <0.50 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-2000 | NY-L | <10.0 | <0.13 | <0.13 | <0.20 | <0.50 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-2000 | NY-L | <10.0 | <0.13 | <0.13 | <0.20 | <0.50 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |

WASTE AQUEOUS CLEANERS

Total # of Samples: 84

TCLP Semi-Volatiles Analysis (ppm)

| Waste Codes: | | D026 | D030 | D032 | D033 | D034 | D036 | D037 | D038 | D041 | D042 |
|--------------|-----------------|--------|---------|----------|-------------|---------|-----------|------------|----------|-----------|-----------|
| Parameter: | | cresol | 2,4-DNT | Cl6-benz | Cl6-1,3-but | Cl6-eth | nitrobenz | Cl5-phenol | pyridine | 2,4,5-TCP | 2,4,6-TCP |
| Reg Limit: | | 200 | 0.13 | 0.13 | 0.5 | 3 | 2 | 100 | 5 | 400 | 2 |
| LAB | SITE | | | | | | | | | | |
| | Maximum | 0 | ND | 0 | 0 | ND | ND | ND | 0 | ND | ND |
| | Minimum | 0 | ND | 0 | 0 | ND | ND | ND | 0 | ND | ND |
| | 90th UCL for | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | 50th Percentile | | | | | | | | | | |

WASTE AQUEOUS CLEANERS

Total # of Samples: 84

TCLP Volatiles Analysis (ppm)

| Waste Codes. | D018 | D019 | D021 | D022 | D027 | D028 | D029 | D035 | D039 | D040 | D043 | |
|--------------|---------|--------------|--------|-------|----------|---------|---------|-------|-------|---------------|-----------|-------|
| Parameter. | benzene | CCl4 | Clbenz | CHCl3 | 1,4-DCIB | 1,2-DCA | 1,1-DCE | MEK | PCE | TCE | VChloride | |
| Reg Limit. | 0.5 | 0.5 | 100 | 8 | 7.5 | 0.5 | 0.7 | 200 | 0.7 | 0.5 | 0.2 | |
| LAB | SITE | | | | | | | | | | | |
| SK-1999 | NY-NA | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <2.0 | <2.0 | <1.5 |
| SK-1999 | NY-NA | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <2.0 | <2.0 | <1.5 |
| SK-1999 | NY-NA | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>13.56</u> | <2.0 | <1.4 |
| SK-1999 | NY-NA | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>1.25</u> | <0.20 | <0.14 |
| SK-1999 | NY-NA | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>664.57</u> | <2.0 | <1.4 |
| SK-1999 | NY-S | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.20 | <u>0.709</u> | <0.10 | <0.10 |
| SK-1999 | NY-S | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 | <0.14 |
| SK-1999 | NY-S | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <u>17.91</u> | <2.0 | <1.4 |
| SK-1999 | NY-S | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.50 | <u>204.31</u> | <0.10 | <0.10 |
| SK-1999 | NY-S | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>11.58</u> | <2.0 | <1.4 |
| SK-1999 | NY-S | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>10.15</u> | <2.0 | <1.4 |
| SK-1999 | OR-C | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>66.4</u> | <2.0 | <1.4 |
| SK-1999 | TX-D | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>2.88</u> | <2.0 | <1.4 |
| SK-2000 | GA-C | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>2.889</u> | 0.2 | <0.14 |
| SK-2000 | GA-GC | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>93.85</u> | <2.0 | <1.4 |
| SK-2000 | GA-MO | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>25.76</u> | <0.20 | <0.14 |
| SK-2000 | KS-DC | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>7.654</u> | 0.25 | <0.14 |
| SK-2000 | KS-E | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>2.743</u> | <0.20 | <0.14 |
| SK-2000 | KS-W | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 | <0.14 |
| SK-2000 | MO-SC | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | 0.686 | <0.20 | <0.14 |
| SK-2000 | ND-B | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>184.8</u> | <2.0 | <1.4 |
| SK-2000 | NE-GE | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>1.43</u> | <0.20 | <0.14 |
| SK-2000 | NM-A | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>1.776</u> | <0.20 | <0.14 |
| SK-2000 | NM-A | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 | <0.14 |
| SK-2000 | NY-A | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>131.2</u> | <2.0 | <1.4 |
| SK-2000 | NY-A | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 | <0.14 |
| SK-2000 | NY-A | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 | <0.14 |
| SK-2000 | NY-C | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>9.002</u> | <0.20 | <0.14 |
| SK-2000 | NY-L | <u>16.26</u> | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 22.49 | <2.00 | <2.0 | <1.4 |
| SK-2000 | NY-L | <u>1.1</u> | <0.20 | <0.20 | <0.20 | 2 | <0.20 | <4.0 | 0.58 | <0.20 | <0.20 | <0.14 |
| SK-2000 | NY-L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>37.28</u> | 0.285 | <0.14 |
| SK-2000 | NY-L | <u>15.34</u> | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>2.069</u> | <2.0 | <1.4 |
| SK-2000 | NY-L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 | <0.14 |
| SK-2000 | NY-L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>12.61</u> | <0.20 | <0.14 |

WASTE AQUEOUS CLEANERS

Total # of Samples: 84

TCLP Volatiles Analysis (ppm)

| Waste Codes: | D018 | D019 | D021 | D022 | D027 | D028 | D029 | D035 | D039 | D040 | D043 |
|-----------------|---------|------|--------|-------|----------|---------|---------|-------|-------------|-------|-----------|
| Parameter: | benzene | CCl4 | Clbenz | CHCl3 | 1,4-DCIB | 1,2-DCA | 1,1-DCE | MEK | PCE | TCE | VChloride |
| Reg. Limit: | 0.5 | 0.5 | 100 | 6 | 7.5 | 0.5 | 0.7 | 200 | 0.7 | 0.5 | 0.2 |
| LAB | SITE | | | | | | | | | | |
| Maximum | 16.26 | ND | 0 | ND | 2 | ND | ND | 22.49 | 26413.9 | 10.67 | ND |
| Minimum | 0.27 | ND | 0 | ND | 0.97 | ND | ND | 0.58 | 0.31 | 0.2 | ND |
| 90th UCL for | ND | ND | ND | ND | ND | ND | ND | ND | <u>5.92</u> | ND | ND |
| 50th Percentile | | | | | | | | | <u>2.88</u> | | |

WASTE DRY CLEANER FILTER POWDER

Total # of samples: 74

| | | Physical Properties | | TCLP Metals Analysis (ppm) | | | | | | | | |
|--------------|-------|---------------------|------|----------------------------|--------|--------|--------|--------|--------|---------|--------|--------|
| Waste Codes. | | D002 | | D001 | D004 | D005 | D006 | D007 | D008 | D009 | D010 | D011 |
| Parameter: | | pH | SG | FP | As | Ba | Cd | Cr | Pb | Hg | Se | Ag |
| Reg. Limit: | | <2; >12.5 | NA | < 140 | 5 | 100 | 1 | 5 | 5 | 0.2 | 1 | 5 |
| LAB | SITE | | | | | | | | | | | |
| SK-1999 | GA-C | 6.18 | 0.91 | >200 | <0.500 | <0.500 | <0.500 | <0.500 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | GA-GC | 6.85 | 0.93 | >200 | <0.500 | 0.225 | <0.050 | 0.071 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | GA-MO | 6.68 | 1.02 | >200 | <0.500 | 0.376 | 0.091 | 0.148 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | GA-N | 5.9 | 1.34 | >200 | <0.500 | 0.331 | 0.091 | 0.062 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | KS-E | 6.69 | 1.01 | >200 | <0.500 | 0.184 | <0.050 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | KS-W | 7.68 | 0.91 | >200 | <0.500 | 0.081 | <0.050 | 0.15 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | LA-P | 6.08 | 0.94 | >200 | <0.500 | 0.168 | <0.050 | 0.094 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | MO-CO | 6.59 | 0.89 | >200 | <0.500 | 0.163 | <0.050 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | ND-B | 6.48 | 0.71 | 85 | <0.500 | 0.306 | 0.177 | 0.101 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NE-GI | 6.7 | 0.92 | >200 | <0.500 | 0.478 | 0.161 | 0.125 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NE-O | 7.09 | 1.62 | >200 | <0.680 | 0.19 | 0.082 | 0.543 | 0.656 | <0.005 | <0.738 | <0.068 |
| SK-1999 | NY-C | 6.19 | 1.09 | >200 | <0.500 | 0.182 | 0.056 | 0.156 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-C | 6.29 | 1.10 | >200 | <0.500 | 0.246 | <0.050 | 0.109 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-L | 6.63 | 0.92 | >200 | <0.500 | 0.265 | 0.067 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-L | 6.52 | 0.92 | >200 | <0.500 | 0.314 | 0.082 | 0.509 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-NA | 6.12 | 1.29 | >200 | <0.500 | 0.332 | <0.050 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-NA | 6.32 | 1.21 | >200 | <0.500 | 0.208 | 0.051 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-NA | 6.55 | 1.24 | >200 | <0.500 | 0.232 | 0.062 | 0.087 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-S | 7.11 | 1.15 | >200 | <0.500 | 0.103 | <0.050 | 0.06 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-S | 6.93 | 1.06 | >200 | <0.500 | 0.077 | <0.050 | 0.054 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-S | 6.82 | 1.05 | >200 | <0.500 | 0.082 | <0.050 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | OR-C | 5.78 | 0.56 | >200 | <0.500 | 0.483 | <0.050 | 0.066 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | SC-G | 7.1 | 0.91 | >200 | <0.500 | 0.212 | <0.050 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | SD-S | 7.4 | 1.20 | >200 | <0.500 | 0.142 | <0.050 | 0.866 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | GA-C | 7.2 | 0.47 | >200 | <0.500 | 0.847 | <0.050 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | GA-GC | 6.9 | 1.23 | >200 | <0.500 | 0.363 | <0.050 | <0.050 | <0.400 | <1.00 | <0.750 | <0.050 |
| SK-2000 | GA-MO | 6.8 | | >200 | <0.500 | 1.32 | 0.158 | 0.167 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | KS-E | 7.5 | 1.55 | >200 | <0.770 | 0.296 | <0.077 | 0.083 | <0.616 | 0.016 | <0.705 | <0.077 |
| SK-2000 | KS-W | 8.7 | 1.83 | >200 | <0.500 | 0.084 | <0.050 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | LA-P | 7.3 | 0.20 | >200 | <0.500 | 0.273 | <0.050 | 0.08 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | MO-SC | 6.3 | 0.93 | >200 | <0.500 | 0.683 | <0.050 | 0.088 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | ND-B | 7.3 | 0.91 | >200 | <0.500 | 0.273 | 0.06 | 0.253 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | NE-GI | 7.9 | 0.99 | >200 | <0.500 | 0.526 | <0.050 | 0.252 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | NE-O | 7.2 | 1.11 | >200 | <0.500 | 0.337 | <0.050 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |

WASTE DRY CL. IER FILTER POWDER

Total # of samples: 74

TCLP Semi Volatiles Analysis (ppm)

| Waste Codes. | | D026 | D030 | D032 | D033 | D034 | D036 | D037 | D038 | D041 | D042 |
|--------------|-------|--------|---------|----------|-------------|---------|-----------|------------|----------|-----------|-----------|
| Parameter. | | cresol | 2,4-DNT | Cl6-benz | Cl6-1,3-but | Cl6-eth | nitrobenz | Cl6-phenol | pyridine | 2,4,5-TCP | 2,4,6-TCP |
| Reg. Limit: | | 200 | 0.13 | 0.13 | 0.5 | 3 | 2 | 100 | 5 | 400 | 2 |
| LAB | SITE | | | | | | | | | | |
| SK-1998 | GA-C | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | GA-GC | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | GA-MO | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | GA-N | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | KS-E | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | KS-W | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | LA-K | <2.55 | <0.750 | <0.800 | <1.05 | <1.00 | <0.950 | <2.80 | <3.30 | <1.15 | <1.95 |
| SK-1998 | LA-P | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | MO-CO | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.200 | <0.040 | <0.040 | <0.040 |
| SK-1998 | ND-B | <2.55 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NE-GI | <2.55 | <0.750 | <0.800 | <1.05 | <1.00 | <0.950 | <2.80 | <3.30 | <1.15 | <1.95 |
| SK-1998 | NE-O | <2.55 | <0.750 | <0.800 | <1.05 | <1.00 | <0.950 | <2.80 | <3.30 | <1.15 | <1.95 |
| SK-1998 | NM-A | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-A | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-A | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-A | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-C | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-C | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-C | <0.080 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.20 | <0.050 | <0.040 | <0.040 |
| SK-1998 | NY-L | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-L | <2.55 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-L | <2.55 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-NA | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-NA | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-NA | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-S | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-S | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-S | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-S | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-S | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-S | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | NY-S | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | OR-C | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | SC-G | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.20 | <0.050 | <0.040 | <0.040 |
| SK-1998 | SD-SF | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |

WASTE DRY CLEANER FILTER POWDER

Total # of samples: 74

TCLP Semi Volatiles Analysis (ppm)

| Waste Codes: | | D026 | D030 | D032 | D033 | D034 | D036 | D037 | D038 | D041 | D042 |
|--------------|-----------------------|--------|---------|----------|-------------|---------|-----------|------------|----------|-----------|-----------|
| Parameter: | | cresol | 2,4-DNT | Cl6-benz | Cl6-1,3-but | Cl6-eth | nitrobenz | Cl5-phenol | pyridine | 2,4,5-TCP | 2,4,6-TCP |
| Reg. Limit: | | 200 | 0.13 | 0.13 | 0.5 | 3 | 2 | 100 | 5 | 400 | 2 |
| LAB | SITE | | | | | | | | | | |
| SK-2000 | NM-A | <100 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.54 | <0.50 | <0.50 |
| SK-2000 | SD-SF | <0.20 | <0.020 | <0.020 | <0.10 | <0.10 | <0.10 | <0.10 | <0.11 | <0.10 | <0.10 |
| SK-2000 | SD-SF | <100 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| SK-2000 | TX-D | <0.080 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.20 | <0.040 | <0.040 | <0.040 |
| SK-2000 | TX-D | <0.080 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.20 | <0.040 | <0.040 | <0.040 |
| SK-2000 | TX-D | <0.080 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.20 | <0.040 | <0.040 | <0.040 |
| | Maximum | 0.56 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | Minimum | 0.56 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | 90th UCL for 50th% | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

WASTE DRY CLEANER FILTER POWDER

Total # of samples: 74

TCLP Volatiles Analysis (ppm)

| Waste Codes: | | D018 | D019 | D021 | D022 | D027 | D028 | D029 | D035 | D039 | D040 | D043 |
|--------------|-------|---------|--------|--------|--------|----------|---------|---------|-------|---------------|--------------|-----------|
| Parameter: | | benzene | CCI4 | Clbenz | CHCl3 | 1,4-DCIB | 1,2-DCA | 1,1-DCE | MEK | PCE | TCE | VChloride |
| Reg. Limit: | | 0.5 | 0.5 | 100 | 6 | 7.5 | 0.5 | 0.7 | 200 | 0.7 | 0.5 | 0.2 |
| LAB | SITE | | | | | | | | | | | |
| SK-1999 | GA-C | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>338.01</u> | <0.20 | <0.14 |
| SK-1999 | GA-GC | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <5.0 | <u>190.18</u> | 0.35 | <0.14 |
| SK-1999 | GA-MO | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>176.65</u> | <u>2.53</u> | <1.4 |
| SK-1999 | GA-N | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>127.95</u> | <0.20 | <0.14 |
| SK-1999 | KS-E | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>367.46</u> | <2.0 | <1.4 |
| SK-1999 | KS-W | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <10.0 | <u>193</u> | <4.0 | <2.8 |
| SK-1999 | LA-P | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <u>157.41</u> | <1.0 | <1.4 |
| SK-1999 | MO-CO | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.1 | <u>487.48</u> | <2.0 | <1.4 |
| SK-1999 | ND-B | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>305.92</u> | <2.0 | <1.4 |
| SK-1999 | NE-GI | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>109.9</u> | <2.0 | <1.4 |
| SK-1999 | NE-O | <0.992 | <0.992 | <0.992 | <0.992 | <2.19 | <0.992 | <1.79 | <2.48 | <u>6550</u> | <u>2.4</u> | <0.734 |
| SK-1999 | NY-C | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>94.08</u> | <2.0 | <1.4 |
| SK-1999 | NY-C | <0.80 | <0.80 | <0.80 | <0.80 | <0.80 | <0.80 | <0.80 | <2.0 | <u>124.01</u> | <u>0.94</u> | <0.56 |
| SK-1999 | NY-L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>1.39</u> | <0.20 | <0.14 |
| SK-1999 | NY-L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>1.54</u> | <0.20 | <0.14 |
| SK-1999 | NY-NA | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <1.0 | <u>104.59</u> | <0.40 | <0.28 |
| SK-1999 | NY-NA | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>135.46</u> | <u>3.47</u> | <1.4 |
| SK-1999 | NY-NA | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 11.26 | <u>162.09</u> | <2.0 | <1.4 |
| SK-1999 | NY-S | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <1.0 | <u>117.7</u> | <0.40 | <0.28 |
| SK-1999 | NY-S | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.5 | <u>136.8</u> | <1.0 | <0.70 |
| SK-1999 | NY-S | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>190.16</u> | <2.0 | <1.4 |
| SK-1999 | OR-C | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>122.29</u> | <u>1.14</u> | <0.14 |
| SK-1999 | SC-G | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>130.8</u> | <0.20 | <0.14 |
| SK-1999 | SD-S | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>1940</u> | <2.0 | <1.4 |
| SK-2000 | GA-C | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>12.53</u> | <0.20 | <0.14 |
| SK-2000 | GA-GC | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>150.4</u> | <2.0 | <1.4 |
| SK-2000 | GA-MO | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>9.23</u> | <0.20 | <0.14 |
| SK-2000 | KS-E | <2.00 | <2.0 | 2.01 | <2.00 | <2.18 | <2.00 | <2.12 | <5.00 | <u>1390</u> | <u>9.32</u> | <1.41 |
| SK-2000 | KS-W | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>102</u> | <2.0 | <1.4 |
| SK-2000 | LA-P | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>180.5</u> | <0.20 | <0.14 |
| SK-2000 | MO-SC | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>129.1</u> | <u>1.108</u> | <0.14 |
| SK-2000 | ND-B | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>53.34</u> | <2.0 | <1.4 |
| SK-2000 | NE-GI | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>455.4</u> | <2.0 | <1.4 |
| SK-2000 | NE-O | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>123.8</u> | <u>8.131</u> | <1.4 |

WASTE DRY CLEANER BOTTOMS

Total # of samples: 46

| Physical Properties | | TCLP Metals Analysis (ppm) | | | | | | | | | | |
|---------------------|-----------|----------------------------|-------|-----------|--------|--------|-------------|-------------|-------------|---------|--------|--------|
| Waste Codes: | D002 | D001 | D004 | D005 | D006 | D007 | D008 | D009 | D010 | D011 | | |
| Parameter: | pH | SG | FP | As | Ba | Cd | Cr | Pb | Hg | Se | Ag | |
| Reg. Limit: | <2, >12.5 | NA | < 140 | 5 | 100 | 1 | 5 | 5 | 0.2 | 1 | 5 | |
| LAB | SITE | | | | | | | | | | | |
| SK-1999 | CO-E | 6.88 | 1.40 | >200 | <5.00 | 3.47 | <0.500 | <u>14.9</u> | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | FL-M | 6.38 | 1.02 | <u>90</u> | <5.00 | <0.500 | <0.500 | 1.69 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | GA-GC | 4.51 | 1.24 | >200 | <0.500 | <0.050 | <0.050 | 0.123 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | GA-MO | 6.14 | 1.45 | >200 | <0.500 | 0.15 | <0.050 | 0.24 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | GA-N | 6.34 | 1.13 | <u>80</u> | <1.04 | 2.54 | <0.104 | 3.06 | 1.27 | <0.013 | <0.714 | <0.104 |
| SK-1999 | KS-E | 6.22 | 1.18 | >200 | <0.500 | <0.050 | <0.050 | 0.081 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | KS-W | 7.12 | 1.41 | >200 | <0.500 | 0.09 | <0.050 | 0.19 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | LA-K | 7.94 | 1.50 | >200 | <5.00 | 0.933 | <0.500 | <u>13.6</u> | <4.00 | <0.100 | <0.45 | 0.52 |
| SK-1999 | MO-CO | 5.78 | 1.19 | >200 | <5.00 | 25.5 | 0.817 | <u>199</u> | <u>13</u> | 0.414 | <0.45 | 1.02 |
| SK-1999 | ND-B | 6.73 | 0.71 | >200 | <0.500 | 0.693 | 0.119 | 0.348 | <0.400 | 0.001 | <0.750 | <0.050 |
| SK-1999 | NE-GER | 4.47 | 1.25 | >200 | <1.25 | 7.92 | <u>2.01</u> | <u>19.5</u> | <u>130</u> | <0.040 | <0.903 | <1.00 |
| SK-1999 | NE-GI | 7.38 | 1.34 | >200 | <1.54 | 0.91 | <0.154 | 4.58 | 1.33 | <0.024 | <0.681 | <0.154 |
| SK-1999 | NE-O | 7.20 | 1.14 | >200 | <5.00 | 4.95 | 0.524 | <u>62.6</u> | <u>23.7</u> | <0.10 | <0.45 | <0.500 |
| SK-1999 | NM-A | 7.10 | 1.38 | >200 | <0.950 | 0.807 | 0.105 | 3.4 | <0.760 | <0.011 | <0.720 | <0.095 |
| SK-1999 | NY-A | 6.74 | 1.25 | >200 | <0.500 | 0.185 | <0.050 | 0.1 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-C | 6.78 | 1.20 | >200 | <0.680 | 0.288 | <0.068 | 1.4 | 0.625 | <0.005 | <0.738 | <0.068 |
| SK-1999 | NY-L | 5.22 | 1.22 | >200 | <0.500 | 1.41 | 0.643 | <u>25.7</u> | <u>6.39</u> | <0.100 | <0.452 | <0.500 |
| SK-1999 | NY-L | 5.28 | 1.21 | >200 | <5.00 | 1.65 | 0.698 | <u>27.1</u> | <u>7.33</u> | <0.100 | <0.452 | <0.500 |
| SK-1999 | NY-L | 5.84 | 1.18 | >200 | <0.500 | 0.378 | <0.050 | 0.735 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-NA | 6.55 | 1.25 | >200 | <0.500 | 0.069 | <0.050 | 0.508 | 1.49 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-NA | 6.40 | 1.14 | >200 | <0.500 | 0.105 | <0.050 | 0.582 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-NA | 6.67 | 1.18 | >200 | <0.500 | 0.119 | <0.050 | 0.5 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-S | 8.61 | 1.01 | >200 | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | NY-S | 8.51 | 1.26 | >200 | <4.46 | 7.92 | 0.475 | <u>88.9</u> | <u>41.4</u> | <0.088 | <0.486 | <0.446 |
| SK-1999 | NY-S | 6.55 | 1.23 | >200 | <0.500 | 0.406 | 0.115 | 0.114 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-S | 6.09 | 1.23 | >200 | <0.860 | 0.699 | 0.132 | <u>11.4</u> | 1.89 | <0.009 | <0.726 | <0.086 |
| SK-1999 | OR-C | 6.19 | 1.36 | >200 | <5.00 | 3.87 | <0.500 | <u>12.9</u> | <u>13.7</u> | <0.10 | <0.45 | <0.500 |
| SK-1999 | SC-G | 5.16 | 1.36 | >200 | <5.00 | 0.903 | <0.500 | <u>11.8</u> | <4.00 | <0.100 | <0.45 | 0.501 |
| SK-1999 | SD-S | 6.15 | 1.47 | >200 | <5.00 | 1.89 | <0.500 | <u>12.5</u> | <u>9.22</u> | <0.10 | <0.45 | <0.500 |
| SK-2000 | CO-E | 5.44 | 1.08 | >200 | <0.500 | 0.776 | <0.050 | 0.0665 | <0.400 | 0.0009 | <0.750 | <0.050 |
| SK-2000 | GA-C | 7.54 | 0.82 | >200 | <0.500 | 0.297 | <0.050 | 0.073 | <0.400 | 0.002 | <0.750 | <0.050 |
| SK-2000 | GA-GC | 6.80 | 1.31 | >200 | <0.500 | 0.925 | <0.050 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | GA-MO | 5.95 | 1.15 | >200 | <5.00 | 3.05 | <0.500 | <u>14.1</u> | <0.400 | <0.10 | <0.45 | <0.500 |
| SK-2000 | GA-N | 5.37 | 1.27 | >200 | <5.00 | 1.47 | <0.500 | <u>17.2</u> | <4.00 | <0.10 | <0.45 | <0.500 |

WASTE DRY CLEANER BOTTOMS

Total # of samples: 46

| Physical Properties | | | TCLP Metals Analysis (ppm) | | | | | | | | |
|---------------------|-----------|-------|----------------------------|-------|-------|-------|--------|-------|--------|------|-------|
| Waste Codes: | D002 | | D001 | D004 | D005 | D006 | D007 | D008 | D009 | D010 | D011 |
| Parameter: | pH | SG | FP | As | Ba | Cd | Cr | Pb | Hg | Se | Ag |
| Reg Limit: | <2; >12.5 | NA | < 140 | 5 | 100 | 1 | 5 | 5 | 0.2 | 1 | 5 |
| LAB | SITE | | | | | | | | | | |
| Maximum | 8.61 | 1.59 | 90 | ND | 25.5 | 2.01 | 199 | 130 | 0.414 | ND | 1.02 |
| Minimum | 4.1 | 0.707 | 80 | ND | 0.069 | 0.105 | 0.0665 | 0.625 | 0.0009 | ND | 0.501 |
| 90th UCL for | 6.62 | 1.25 | >200 | ND | 3.87 | ND | 19.4 | 1.14 | ND | ND | ND |
| 50th Percentile | 6.73 | 1.24 | >200 | <4.46 | 0.933 | | 8.44 | 0.625 | <0.10 | | |

WASTE DRY CLEANER BOTTOMS

Total # of samples: 46

TCLP Semi Volatiles Analysis (ppm)

| Lab | Site | D000 | D030 | D032 | D033 | D034 | D036 | D037 | D038 | D041 | D042 |
|------------|-------|--------|---------|----------|-------------|---------|-----------|------------|----------|-----------|-----------|
| Parameter | | cresol | 2,4-DNT | Cl6-benz | Cl6-1,3-but | Cl6-eth | nitrobenz | Cl5-phenol | pyridine | 2,4,5-TCP | 2,4,6-TCP |
| Reg. Limit | | 200 | 0.13 | 0.13 | 0.5 | 3 | 2 | 100 | 5 | 400 | 2 |
| SK-2000 | KS-E | <1.00 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| SK-2000 | KS-W | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | LA-P | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | MO-SC | <100 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.54 | <0.50 | <0.50 |
| SK-2000 | ND-F | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| SK-2000 | NE-GI | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| SK-2000 | NE-O | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | NM-A | <80.8 | <8.08 | <8.08 | <40.4 | <40.4 | <40.4 | <40.4 | <40.4 | <40.4 | <40.4 |
| SK-2000 | SD-SF | <100 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.54 | <0.50 | <0.50 |
| SK-2000 | TX-D | <0.080 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.20 | <0.040 | <0.040 | <0.040 |
| SK-2000 | TX-D | <0.080 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.20 | <0.040 | <0.040 | <0.040 |

WASTE DRY CLEANER BOTTOMS

Total # of samples: 46

TCLP Volatiles Analysis (ppm)

| State Codes | Parameter | Reg. Limit | D018 benzene | D019 CCI4 | D021 Clbenz | D022 CHCl3 | D027 1,4-DCIB | D028 1,2-DCA | D029 1,1-DCE | D035 MEK | D039 PCE | D040 TCE | D041 VChloride |
|-------------|-----------|------------|-----------------|--------------|----------------|---------------|------------------|-----------------|-----------------|-------------|-----------------|---------------|-------------------|
| LAB | SITE | | 0.5 | 0.5 | 100 | 6 | 7.5 | 0.5 | 0.7 | 200 | 0.7 | 0.5 | 0.2 |
| SK-1999 | CO-E | | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>36600</u> | <u>16.8</u> | <1.5 |
| SK-1999 | FL-M | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>1054.95</u> | <u>8.98</u> | <1.4 |
| SK-1999 | GA-GC | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>159.12</u> | <0.20 | <0.14 |
| SK-1999 | GA-MO | | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <50 | <u>515.76</u> | <20 | <14 |
| SK-1999 | GA-N | | <2.00 | <2.00 | <2.00 | <2.00 | <2.36 | <2.00 | <2.24 | <5.00 | <u>201000</u> | <2.00 | <1.41 |
| SK-1999 | KS-E | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>180.86</u> | <2.0 | <1.4 |
| SK-1999 | KS-W | | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <10.0 | <u>260</u> | <4.0 | <2.8 |
| SK-1999 | LA-K | | <50 | <20 | <20 | <u>20</u> | <20 | <20 | <20 | <100 | <u>496240</u> | <u>1200</u> | <20 |
| SK-1999 | MO-CO | | <20 | <20 | <20 | <20 | <50 | <20 | <40 | <50 | <u>237000</u> | <u>20.7</u> | <15 |
| SK-1999 | ND-B | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>1139.01</u> | <2.0 | <1.4 |
| SK-1999 | NE-GER | | <5.0 | <2.0 | <2.0 | 2.747 | <u>151.545</u> | <2.0 | <2.0 | <10.0 | <u>47001.11</u> | <u>271.23</u> | <2.0 |
| SK-1999 | NE-GI | | <13.5 | <6.32 | <6.32 | <6.32 | <6.32 | <6.32 | <6.32 | <27.8 | <u>14700</u> | <u>16.4</u> | <5.86 |
| SK-1999 | NE-O | | <20 | <20 | <20 | <20 | <50 | <20 | <40 | 94.9 | <u>212000</u> | <u>23.8</u> | <15 |
| SK-1999 | NM-A | | <2.51 | <2.0 | <2.00 | <2.00 | <2.00 | <2.00 | <2.00 | <5.85 | <u>3120</u> | <u>6.01</u> | <1.50 |
| SK-1999 | NY-A | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>702.02</u> | <2.0 | <1.4 |
| SK-1999 | NY-C | | <2.72 | <2.72 | <2.72 | <u>6.6</u> | <3.92 | <2.72 | <3.52 | <6.80 | <u>5430</u> | <u>10.5</u> | <1.94 |
| SK-1999 | NY-L | | <50 | <20 | <20 | <20 | <20 | <20 | <20 | <100 | <u>62764.93</u> | <u>79.683</u> | <20 |
| SK-1999 | NY-L | | <50 | <20 | <20 | <20 | <20 | <20 | <20 | <100 | <u>56781.19</u> | <u>51.605</u> | <20 |
| SK-1999 | NY-L | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>3524.56</u> | <u>6.19</u> | <1.4 |
| SK-1999 | NY-NA | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>3120.64</u> | <2.0 | <1.4 |
| SK-1999 | NY-NA | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>199.97</u> | <2.0 | <1.4 |
| SK-1999 | NY-NA | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>427.92</u> | <2.0 | <1.4 |
| SK-1999 | NY-S | | <5.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <10.0 | <u>75.13</u> | <2.0 | <2.0 |
| SK-1999 | NY-S | | <45.7 | <18.4 | <18.4 | <18.4 | <18.4 | <18.4 | <18.4 | <91.5 | <u>327000</u> | <u>741</u> | <18.3 |
| SK-1999 | NY-S | | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <1.0 | <u>129.37</u> | <u>0.53</u> | <0.28 |
| SK-1999 | NY-S | | <2.00 | <2.00 | 2.00 | <2.00 | <2.21 | <2.00 | <2.14 | 5.35 | <u>22200</u> | <u>113</u> | <1.41 |
| SK-1999 | OR-C | | <20 | <20 | <20 | <20 | <50 | <20 | <40 | <50 | <u>1000000</u> | <20 | <15 |
| SK-1999 | SC-G | | <20 | <20 | 35.4 | <20 | <50 | <20 | <40 | <50 | <u>1000000</u> | <u>31.9</u> | <15 |
| SK-1999 | SD-S | | <20 | <20 | <20 | <20 | <50 | <20 | <40 | <50 | <u>362000</u> | <u>73.4</u> | <15 |
| SK-2000 | CO-E | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>1521</u> | <0.20 | <0.14 |
| SK-2000 | GA-C | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>113.9</u> | <2.0 | <1.4 |
| SK-2000 | GA-GC | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 15.55 | <u>649</u> | <2.0 | <1.4 |
| SK-2000 | GA-MO | | <0.40 | <0.40 | <0.40 | 0.94 | <u>10.1</u> | <0.40 | <0.80 | <1.0 | <u>94700</u> | <u>291</u> | <0.30 |
| SK-2000 | GA-N | | <0.40 | <0.40 | <0.40 | 0.81 | <u>18.9</u> | <0.40 | <0.80 | <1.0 | <u>14200</u> | <u>2.4</u> | <0.30 |

WASTE DRY CLEANER BOTTOMS

Total # of samples: 46

TCLP Volatiles Analysis (ppm)

| | | D016 | D019 | D021 | D022 | D027 | D028 | D029 | D035 | D039 | D040 | D041 | |
|-----|-----------------|-----------|------|--------|-------|----------|---------|---------|------|-----------------|-------------|-----------|-----|
| | | benzene | CCl4 | Clbenz | CHCl3 | 1,4-DCIB | 1,2-DCA | 1,1-DCE | MEK | PCE | TCE | VChloride | |
| | | Reg Limit | 0.5 | 0.5 | 100 | 6 | 7.5 | 0.5 | 0.7 | 200 | 0.7 | 0.5 | 0.2 |
| LAB | SITE | | | | | | | | | | | | |
| | Maximum | ND | ND | 35.4 | 20 | 151.545 | ND | ND | 124 | 1000000 | 1200 | ND | |
| | Minimum | ND | ND | 2 | 0.81 | 8 | ND | ND | 5.35 | 75.13 | 0.53 | ND | |
| | 90th UCL for | ND | ND | ND | ND | ND | ND | ND | ND | <u>14700</u> | <u>6.19</u> | ND | |
| | 50th Percentile | | | | | | | | | <u>47001.11</u> | <u>16.8</u> | | |

WASTE IMMERSION CLEANER

Total # of Samples: 54

| Physical Properties | | TCLP Metals Analysis (ppm) | | | | | | | | | | |
|---------------------|-----------|----------------------------|--------|------------|-------|------------|--------------|--------|-------------|--------|--------|--------|
| Waste Code | D002 | D001 | D004 | D005 | D006 | D007 | D008 | D009 | D010 | D011 | | |
| Parameter | pH | SG | FP | As | Ba | Cd | Cr | Pb | Hg | Se | Ag | |
| Reg. Limit | <2; >12.5 | NA | < 140 | 5 | 100 | 1 | 5 | 5 | 0.2 | 1 | 5 | |
| LAB | SITE | | | | | | | | | | | |
| SK-2000 | GA-C | 10.43 | 0.9213 | 164 | <5.00 | <0.500 | <0.500 | 0.589 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | GA-GC | 10.30 | 0.961 | >200 | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.100 | <0.45 | <0.500 |
| SK-2000 | GA-M | 10.07 | 0.948 | >200 | <5.00 | <0.500 | <u>123</u> | 1.61 | <u>21.2</u> | <0.10 | <0.45 | <0.500 |
| SK-2000 | GA-M | 9.98 | 0.8527 | >200 | <5.00 | <0.500 | <0.500 | 4.42 | <0.10 | <0.45 | <0.500 | |
| SK-2000 | GA-N | 10.17 | 0.9397 | <u>128</u> | <5.00 | <0.500 | <u>2.84</u> | 0.566 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | KS-DC | 9.28 | 0.946 | >200 | <5.00 | 0.768 | <u>9.29</u> | 0.653 | <u>38.3</u> | <0.10 | <0.45 | <0.500 |
| SK-2000 | KS-E | 9.70 | 0.927 | >200 | <5.00 | <u>131</u> | <u>1.41</u> | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | KS-W | 8.74 | 0.949 | 155 | <5.00 | 0.649 | <u>20.8</u> | 2.28 | <u>343</u> | 0.163 | <0.008 | 2.81 |
| SK-2000 | LA-P | 9.49 | 0.9467 | >200 | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | 0.178 | <0.45 | <0.500 |
| SK-2000 | MO-SC | 8.90 | 0.9369 | >200 | <5.00 | <0.500 | 0.735 | 0.658 | <u>92.4</u> | <0.10 | <0.45 | <0.500 |
| SK-2000 | ND-F | 10.30 | 0.932 | 155 | <5.00 | <0.500 | <u>19.91</u> | <0.500 | 4.92 | <0.040 | <0.008 | <0.500 |
| SK-2000 | NE-G | 9.51 | 0.94 | >200 | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | NE-GI | 10.00 | 0.957 | >200 | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | NE-O | 9.60 | 0.929 | 142 | <5.00 | 0.543 | <u>27.6</u> | 4.95 | <u>140</u> | <0.040 | <0.008 | <0.500 |
| SK-2000 | NM-A | 9.60 | 0.926 | 145 | <5.00 | <0.500 | <u>30.6</u> | 1.66 | <u>51</u> | <0.040 | <0.008 | <0.500 |
| SK-2000 | SC-G | 9.82 | 0.9613 | >200 | <5.00 | <0.500 | 0.662 | <0.500 | <u>113</u> | <0.10 | <0.45 | <0.500 |
| SK-2000 | SC-G | 9.82 | 0.9613 | >200 | <5.00 | <0.500 | 0.662 | <0.500 | <u>113</u> | <0.10 | <0.45 | <0.500 |
| SK-2000 | SD-SF | 10.00 | 0.94 | >200 | <5.00 | <0.500 | <u>3.89</u> | 0.871 | <u>42.5</u> | <0.10 | <0.45 | <0.500 |
| SK-2000 | SD-SF | 10.38 | 0.9362 | 153 | <5.00 | <0.500 | <u>2.51</u> | 0.584 | <u>20.5</u> | <0.10 | <0.45 | <0.500 |
| SK-2000 | TX-D | 8.52 | 0.986 | >200 | <5.00 | 0.735 | <0.500 | <0.500 | <u>5.62</u> | <0.100 | <0.45 | <0.500 |
| Maximum | | 10.54 | 1.07 | >200 | ND | 131.00 | 123.00 | 9.02 | 817.00 | 0.18 | 0.00 | ND |
| Minimum | | 7.37 | 0.85 | 120 | ND | 0.526 | 0.662 | 0.566 | 4.42 | 0.163 | 0 | ND |
| 90th UCL for | | 9.92 | 0.95 | 148 | ND | ND | <u>2.35</u> | ND | <u>9.03</u> | ND | ND | ND |
| 50th Percentile | | 9.87 | | 160 | | | <u>1.48</u> | <0.500 | <u>9.03</u> | | | |

WASTE IMMERSION CLEANER

Total # of Samples: 54

TCLP Semi Volatiles Analysis (ppm)

| Waste Code | | D026 | D030 | D032 | D033 | D034 | D036 | D037 | D038 | D041 | D042 |
|-----------------|-------|--------|---------|----------|-------------|---------|-----------|------------|----------|-----------|-----------|
| Parameter | | cresol | 2,4-DNT | Cl6-benz | Cl6-1,3-but | Cl6-eth | nitrobenz | Cl5-phenol | pyridine | 2,4,5-TCP | 2,4,6-TCP |
| Reg. Limit: | | 200 | 0.13 | 0.13 | 0.5 | 3 | 2 | 100 | 5 | 400 | 2 |
| LAB | SITE | | | | | | | | | | |
| SK-2000 | GA-C | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | GA-GC | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| SK-2000 | GA-M | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | GA-M | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | GA-N | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | KS-DC | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | KS-E | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | KS-W | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | LA-P | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | MO-SC | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | ND-F | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | NE-G | <400 | <110 | <170 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| SK-2000 | NE-GI | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | NE-O | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | NM-A | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | SC-G | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | SC-G | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | SD-SF | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | SD-SF | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| SK-2000 | TX-D | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| Maximum | | 0.00 | ND | ND | ND | ND | 0.00 | ND | ND | ND | ND |
| Minimum | | 0 | ND | ND | ND | ND | 0 | ND | ND | ND | ND |
| 90th UCL for | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 50th Percentile | | | | | | | | | | | |

WASTE IMERSION CLEANER

Total # of Samples: 54

TCLP Volatiles Analysis (ppm)

| Waste Code: | D018 | D019 | D021 | D022 | D027 | D028 | D029 | D035 | D039 | D040 | D043 | |
|-----------------|---------|------------|--------|-------|----------|--------------|---------|-------|-------|---------------|-------------|-------|
| Parameter: | benzene | CCI4 | Clbenz | CHCl3 | 1,4-DCIB | 1,2-DCA | 1,1-DCE | MEK | PCE | TCE | VChloride | |
| Reg. Limit: | 0.5 | 0.5 | 100 | 6 | 7.5 | 0.5 | 0.7 | 200 | 0.7 | 0.5 | 0.2 | |
| LAB | SITE | | | | | | | | | | | |
| SK-2000 | GA-C | <0.80 | <0.80 | 9.2 | <0.80 | <u>131.0</u> | <0.80 | <1.6 | 9.3 | <u>393.0</u> | <u>26.9</u> | <0.60 |
| SK-2000 | GA-GC | <0.20 | <0.20 | 19.1 | <0.20 | <u>224.0</u> | <0.20 | <0.40 | 2 | <u>382.0</u> | <u>7.6</u> | <0.15 |
| SK-2000 | GA-M | 0.31 | <0.20 | 8.6 | <0.20 | <u>298.0</u> | <0.20 | <0.40 | 3.8 | <u>304.0</u> | <u>71.6</u> | <0.15 |
| SK-2000 | GA-M | 0.25 | <0.20 | 8.8 | <0.20 | <u>87.3</u> | <0.20 | <0.40 | 10 | <u>370.0</u> | <u>18.3</u> | <0.15 |
| SK-2000 | GA-N | <2.0 | <2.0 | 9.167 | <2.0 | <u>49.2</u> | <2.0 | <4.0 | 6.994 | <u>350.7</u> | <u>15.1</u> | <1.5 |
| SK-2000 | KS-DC | <u>5.4</u> | <2.0 | 12.7 | <2.0 | <u>209.0</u> | <2.0 | <4.0 | <5.0 | <u>363.0</u> | <u>7.1</u> | <1.5 |
| SK-2000 | KS-E | <2.0 | <2.0 | 13.3 | <2.0 | <u>206.0</u> | <2.0 | <4.0 | <5.0 | <u>50.2</u> | <2.0 | <1.5 |
| SK-2000 | KS-W | <u>3</u> | <2.0 | 4.5 | <2.0 | <u>188.0</u> | <2.0 | <4.0 | <5.0 | <u>34.8</u> | <u>2.0</u> | <1.5 |
| SK-2000 | LA-P | <u>4.3</u> | <2.0 | 11.1 | <2.0 | <u>265.0</u> | <2.0 | <4.0 | <5.0 | <u>60.5</u> | <u>5.6</u> | <1.5 |
| SK-2000 | MO-SC | <2.0 | <2.0 | 3.6 | <2.0 | <u>264.0</u> | <2.0 | <4.0 | <5.0 | <u>4.2</u> | <2.0 | <1.5 |
| SK-2000 | ND-F | <2.0 | <2.0 | 14.6 | <2.0 | <u>176.0</u> | <2.0 | <4.0 | 5.3 | <u>344.0</u> | <u>16.6</u> | <1.5 |
| SK-2000 | NE-G | <2.0 | <2.0 | 14.6 | <2.0 | <u>279.0</u> | <2.0 | <4.0 | <5.0 | <u>166.0</u> | <u>18.2</u> | <1.5 |
| SK-2000 | NE-GI | <2.0 | <2.0 | 4.5 | <2.0 | <u>61.0</u> | <2.0 | <4.0 | <5.0 | <u>82.3</u> | <u>21.5</u> | <1.5 |
| SK-2000 | NE-O | <2.0 | <2.0 | 16.8 | <2.0 | <u>424.0</u> | <2.0 | <4.0 | <5.0 | <u>1170.0</u> | <u>6.8</u> | <1.5 |
| SK-2000 | NM-A | <u>6.8</u> | <2.0 | 10.6 | <2.0 | <u>219.0</u> | <2.0 | <4.0 | <5.0 | <u>36.0</u> | <u>3.8</u> | <1.5 |
| SK-2000 | SC-G | <0.20 | <0.20 | 6.2 | <0.20 | <u>39.8</u> | <0.20 | <0.40 | 5.5 | <u>193.0</u> | <u>18.0</u> | <0.15 |
| SK-2000 | SC-G | <0.20 | <0.20 | 6.2 | <0.220 | <u>39.8</u> | <2.0 | <4.0 | 5.5 | <u>193.0</u> | <u>18.0</u> | <0.15 |
| SK-2000 | SD-SF | <u>4.2</u> | <2.0 | 8.8 | <2.0 | <u>105.0</u> | <2.0 | <4.0 | 5.4 | <u>240.0</u> | <u>17.7</u> | <1.5 |
| SK-2000 | SD-SF | <u>4</u> | <2.0 | 7.3 | <2.0 | <u>137.0</u> | <2.0 | <4.0 | 15 | <u>163.0</u> | <u>35.5</u> | <1.5 |
| SK-2000 | TX-D | <2.0 | <2.0 | 9.9 | <2.0 | <u>159.0</u> | <2.0 | <4.0 | <5.0 | <u>61.1</u> | <u>3.6</u> | <1.5 |
| Maximum | | 6.80 | ND | 57.20 | ND | 710.00 | ND | ND | 99.70 | 1170.00 | 71.60 | ND |
| Minimum | | 0.25 | ND | 0.28 | ND | 3.29 | ND | ND | 1.48 | 0.52 | 2.00 | ND |
| 90th UCL for | | ND | ND | ND | ND | <u>257</u> | ND | ND | ND | <u>87.47</u> | <u>12.0</u> | ND |
| 50th Percentile | | | | | | <u>224.0</u> | | | | <u>153</u> | <u>15.1</u> | |

PAINT WASTES OTHER

Total # of Samples: 52

| Physical Properties | | TCLP Metals Analysis (ppm) | | | | | | | | | | |
|---------------------|-----------|----------------------------|--------|------|--------|-------|--------|--------|--------|---------|--------|--------|
| Waste Code: | D002 | D001 | D004 | D005 | D006 | D007 | D008 | D009 | D010 | D011 | | |
| Parameter: | pH | SG | FP | As | Ba | Cd | Cr | Pb | Hg | Se | Ag | |
| Reg. Limit: | <2; >12.5 | NA | < 140 | 5 | 100 | 1 | 5 | 5 | 0.2 | 1 | 5 | |
| LAB | SITE | | | | | | | | | | | |
| 3K-199 | SD-SF | 6.86 | 0.858 | 69 | <5.00 | 14.3 | <0.500 | 18.2 | 76.2 | <0.10 | <0.45 | <0.500 |
| 3K-199 | TX-D | 5.61 | 0.885 | <70 | <5.00 | 1.39 | <0.500 | 5.13 | 7.59 | <0.10 | <0.452 | <0.500 |
| 3K-199 | UT-SLC | 6.19 | 0.851 | 69 | <5.00 | 4.08 | <0.500 | 3 | 12.4 | <0.10 | <0.45 | <0.500 |
| 3K-199 | UT-SLC | 5.1 | 0.9382 | 69 | <5.00 | 496 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| 3K-200 | GA-C | 2.98 | 0.8341 | 69 | <5.00 | 2.59 | <0.500 | 0.737 | <4.00 | <0.10 | <0.45 | <0.500 |
| 3K-200 | GA-N | 7.4 | 0.9053 | 69 | <5.00 | 3.49 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| 3K-200 | KS-E | 4.1 | 0.935 | 69 | <0.770 | 3.11 | <0.077 | 3.97 | 16.0 | <0.003 | <0.705 | <0.077 |
| 3K-200 | KS-W | 6.62 | 0.853 | 69 | <5.00 | 1.3 | <0.500 | 2.47 | <4.00 | <0.040 | <0.008 | <0.500 |
| 3K-200 | LA-P | 5.89 | 0.88 | 69 | <5.00 | 3.5 | 1.39 | 0.514 | <4.00 | <0.10 | <0.45 | <0.500 |
| 3K-200 | LA-P | 5.8 | 0.9369 | 69 | <5.00 | 4.09 | <0.500 | 2.53 | 8.97 | <0.10 | <0.45 | 0.881 |
| 3K-200 | MO-SC | 6.08 | 0.8359 | 69 | <5.00 | 756 | <0.500 | 3.51 | <4.00 | <0.10 | <0.45 | <0.500 |
| 3K-200 | NE-GI | 5.03 | 0.843 | 69 | <5.00 | 9.18 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| 3K-200 | NE-O | 5.2 | 0.9 | 69 | <5.00 | 18.3 | <0.500 | 7.28 | <4.00 | <0.040 | <0.008 | <0.500 |
| 3K-200 | NM-A | 6.00 | 0.87 | 69 | <5.00 | 81.6 | <0.500 | 1.56 | <4.00 | <0.10 | <0.45 | <0.500 |
| 3K-200 | SC-G | 4.48 | 0.8678 | 69 | <5.00 | 28.3 | <0.500 | 2.04 | <4.00 | <0.10 | <0.45 | <0.500 |
| 3K-200 | TX-D | 7.33 | 0.848 | <70 | <5.00 | 12.3 | <0.500 | 9.59 | 41.1 | <0.10 | <0.45 | <0.500 |
| 3K-200 | UT-SLC | 7.42 | 0.8867 | 69 | <5.00 | 2.07 | <0.050 | <0.050 | <0.400 | <0.002 | <0.750 | <0.050 |
| 3K-200 | UT-SLC | 5.99 | 0.864 | 69 | <5.00 | 2.23 | <0.050 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| Maximum | | 8.72 | 1.2328 | 160 | ND | 756 | 1.39 | 89.7 | 376 | ND | ND | ND |
| Minimum | | 2.98 | 0.702 | 69 | ND | 0.561 | 0.499 | 0.357 | 0.638 | ND | ND | ND |
| 90th UCL for | | 6.65 | 0.878 | <70 | ND | 16.5 | ND | 2.54 | 6.65 | ND | ND | ND |
| 50th Percentile | | | | 69 | | 13.6 | | 2.04 | 7.05 | | | |

PAINT WASTES OTHER

Total # of Samples: 52

TCLP Semi Volatiles Analysis (ppm)

| Lab Code | D028 | D030 | D032 | D033 | D034 | D036 | D037 | D038 | D041 | D042 | |
|------------|--------|---------|----------|-------------|---------|-----------|------------|----------|-----------|-----------|-------|
| Parameter | cresol | 2,4-DNT | Cl6-benz | Cl6-1,3-but | Cl6-eth | nitrobenz | Cl5-phenol | pyridine | 2,4,5-TCP | 2,4,6-TCP | |
| Reg. Limit | 200 | 0.13 | 0.13 | 0.5 | 3 | 2 | 100 | 5 | 400 | 2 | |
| LAB | SITE | | | | | | | | | | |
| 3K-1998 | SD-SF | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| 3K-1998 | TX-D | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| 3K-1998 | UT-SLC | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| 3K-1998 | UT-SLC | <280 | <37 | <34 | <51 | <47 | <58 | <89 | <180 | <71 | <86 |
| 3K-2000 | GA-C | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| 3K-2000 | GA-N | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| 3K-2000 | KS-E | <25.0 | <2.49 | <2.49 | <12.5 | <12.5 | <12.5 | <12.5 | <13.1 | <12.5 | <12.5 |
| 3K-2000 | KS-W | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <200 | <200 | <200 |
| 3K-2000 | LA-P | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| 3K-2000 | LA-P | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| 3K-2000 | MO-SC | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| 3K-2000 | NE-GI | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| 3K-2000 | NE-O | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| 3K-2000 | NM-A | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| 3K-2000 | SC-G | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| 3K-2000 | TX-D | <400 | <110 | <170 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| 3K-2000 | UT-SLC | <100 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.54 | <0.50 | <0.50 |
| 3K-2000 | UT-SLC | <20.0 | <0.020 | <0.020 | <0.10 | <0.10 | <0.10 | <0.10 | <0.11 | <0.10 | <0.10 |
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PAINT WASTES OTHER

Total # of Samples: 52

TCLP Volatiles Analysis (ppm)

| Sample Code | D018 | D019 | D021 | D022 | D027 | D028 | D029 | D035 | D039 | D040 | D043 | |
|-----------------|-------------|---------------|--------|-------|----------|---------|---------|-------|-----------------|----------------|---------------|-------|
| Parameter | benzene | CCl4 | Clbenz | CHCl3 | 1,4-DCIB | 1,2-DCA | 1,1-DCE | MEK | PCE | TCE | VChloride | |
| Reg. Limit | 0.5 | 0.5 | 100 | 6 | 7.5 | 0.5 | 0.7 | 200 | 0.7 | 0.5 | 0.2 | |
| LAB | SITE | | | | | | | | | | | |
| 3K-1998 | SD-SF | <u>62.375</u> | <20 | <20 | <20 | <20 | <20 | <20 | <u>93513.63</u> | <u>124.831</u> | <u>125.77</u> | <20 |
| 3K-1998 | TX-D | <u>21.753</u> | <2.00 | <2.00 | <2.00 | <2.00 | <2.00 | <2.00 | <u>17579.73</u> | <u>4.63</u> | <u>43.368</u> | <2.0 |
| 3K-1998 | UT-SLC | <u>129</u> | <20 | <20 | <20 | <50 | <20 | <40 | <u>33800</u> | <u>62.1</u> | <20 | <15 |
| 3K-1998 | UT-SLC | <u>384</u> | <20 | <20 | <20 | <50 | <20 | <40 | <u>5250</u> | <20 | <20 | <15 |
| 3K-2000 | GA-C | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>56700</u> | <2.0 | <1.5 | |
| 3K-2000 | GA-N | <u>15.59</u> | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <u>33320</u> | <4.0 | <4.0 | <2.8 |
| 3K-2000 | KS-E | <u>1.95</u> | <1.39 | <1.39 | <1.39 | <3.19 | <1.39 | <2.59 | <u>1720</u> | <u>4.0</u> | <u>4.0</u> | <1.03 |
| 3K-2000 | KS-W | <u>48</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>14900</u> | <u>19.2</u> | <u>15.0</u> | <1.5 |
| 3K-2000 | LA-P | <u>64.8</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>28200</u> | <u>5.6</u> | <2.0 | <1.5 |
| 3K-2000 | LA-P | <u>78.8</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>22400</u> | <u>10.6</u> | <2.0 | <1.5 |
| 3K-2000 | MO-SC | <u>8.6</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>15900</u> | <2.0 | <2.0 | <1.5 |
| 3K-2000 | NE-GI | <u>81.6</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>24300</u> | <u>124</u> | <u>84.1</u> | <1.5 |
| 3K-2000 | NE-O | <u>90.3</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>18800</u> | <u>101</u> | <u>98.6</u> | <1.5 |
| 3K-2000 | NM-A | <20 | <20 | <20 | <20 | <50 | <20 | <40 | <u>13300</u> | <u>291</u> | <20 | <15 |
| 3K-2000 | SC-G | <u>60.2</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>26300</u> | <u>77.8</u> | <u>188</u> | <1.5 |
| 3K-2000 | TX-D | <u>30.4</u> | <20 | <20 | <20 | <50 | <20 | <40 | <u>21500</u> | <20 | <20 | <15 |
| 3K-2000 | UT-SLC | 0.465 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <u>4808</u> | <0.20 | <0.20 | <0.14 |
| 3K-2000 | UT-SLC | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <u>736.1</u> | <4.0 | <4.0 | <2.8 |
| Maximum | 641 | ND | 35.8 | 8.755 | 0 | ND | ND | ND | 189000 | 1081 | 390 | ND |
| Minimum | 0.465 | ND | 6.197 | 8.755 | 0 | ND | ND | ND | 0.91 | 0.68 | 2.6 | ND |
| 90th UCL for | <u>131</u> | ND | ND | ND | ND | ND | ND | ND | <u>19100</u> | <u>11</u> | | ND |
| 50th Percentile | <u>61.4</u> | | | | | | | | <u>23318.55</u> | <u>24.5</u> | | |

WASTE PAINT GUN CLEANER

Total # of Samples: 47

| | | Physical Properties | | | TCLP Metals Analysis (ppm) | | | | | | | |
|--------------|--------|---------------------|--------|---------------|----------------------------|------------|--------|-------------|-------------|--------|--------|--------|
| Sample Codes | | D002 | | D001 | D004 | D005 | D006 | D007 | D008 | D009 | D010 | D011 |
| Parameter | | pH | SG | FP | As | Ba | Cd | Cr | Pb | Hg | Se | Ag |
| Reg. Limit | | <2.0/2.5 | NA | <140 | 5 | 100 | 1 | 5 | 5 | 0.2 | 1 | 5 |
| LAB | SITE | | | | | | | | | | | |
| SK-2000 | KS-E | 5.2 | 0.843 | <u>69</u> | <5.00 | 0.904 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | KS-W | 5.75 | 0.844 | <u>69</u> | <5.00 | 8.22 | <0.500 | 1.9 | <4.00 | <0.040 | <0.008 | <0.500 |
| SK-2000 | LA-P | 6.75 | 0.86 | <u>69</u> | <5.00 | 8.64 | <0.500 | <u>5.73</u> | <u>16.9</u> | <0.10 | <0.45 | <0.500 |
| SK-2000 | MO-SC | 5.28 | 0.8119 | <u>69</u> | <5.00 | 3.8 | <0.500 | <0.500 | <4.00 | <0.100 | <0.45 | <0.500 |
| SK-2000 | NE-GI | 6.5 | 0.869 | <u>69</u> | <5.00 | <u>846</u> | <0.500 | <u>11.1</u> | <u>29.4</u> | <0.10 | <0.45 | <0.500 |
| SK-2000 | NE-O | 4.7 | 0.87 | <u>69</u> | <5.00 | 3.29 | <0.500 | <0.500 | <4.00 | <0.040 | <0.008 | <0.500 |
| SK-2000 | SC-G | 7.23 | 0.9015 | <u>69</u> | <5.00 | 24.8 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | SD-SF | 4.4 | 0.87 | <u>69</u> | <5.00 | 5.58 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | SD-SF | 4.58 | 0.8341 | <u>69</u> | <5.00 | 2.36 | <0.500 | 0.603 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | TX-D | 4.33 | 0.868 | <u><70</u> | <5.00 | 0.594 | <0.500 | <0.500 | <4.00 | <0.100 | <0.45 | <0.500 |
| SK-2000 | FL-BB | 4.56 | 0.8778 | <u>69</u> | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | UT-SLC | 6.34 | 1.0047 | <u>69</u> | <0.500 | 4.25 | <0.050 | <0.050 | <0.400 | <0.008 | <0.750 | <0.050 |
| SK-2000 | UT-SLC | 4.13 | 0.872 | <u>69</u> | <5.00 | <0.500 | <0.500 | 3.85 | <4.00 | <0.10 | <0.45 | <0.500 |

WASTE PAINT GUN CLEANER

Total # of Samples: 47

TCLP Semi Volatiles Analysis (ppm)

| LAB | SITE | Waste Codes | D026 | D030 | D032 | D033 | D034 | D036 | D037 | D038 | D041 | TCLP Vc |
|---------|--------|-------------|--------|---------|----------|-------------|---------|-----------|------------|----------|-----------|-----------|
| | | Parameter | cresol | 2,4-DNT | Cl6-benz | Cl6-1,3-but | Cl6-eth | nitrobenz | Cl5-phenol | pyridine | 2,4,6-TCP | D042 |
| | | Reg Limit | 200 | 0.13 | 0.13 | 0.5 | 3 | 2 | 100 | 5 | 400 | 2,4,6-TCP |
| | | | | | | | | | | | | 2 |
| SK-1999 | CO-E | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | FL-BB | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | FL-M | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | GA-C | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | GA-C | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | GA-N | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | KS-E | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | KS-W | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | MO-C | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | NE-GI | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | NE-O | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | NM-A | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | NY-A | | <280 | <37 | <34 | <51 | <47 | <58 | <89 | <180 | <71 | <86 |
| SK-1999 | NY-AV | | <280 | <37 | <34 | <51 | <47 | <58 | <89 | <180 | <71 | <86 |
| SK-1999 | NY-AV | | <280 | <37 | <34 | <51 | <47 | <58 | <89 | <180 | <71 | <86 |
| SK-1999 | NY-C | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | NY-L | | <280 | <37 | <34 | <51 | <47 | <58 | <89 | <180 | <71 | <86 |
| SK-1999 | NY-L | | <280 | <37 | <34 | <51 | <47 | <58 | <89 | <180 | <71 | <86 |
| SK-1999 | NY-L | | <10 | <0.13 | <0.0050 | <0.020 | 0.20033 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-1999 | NY-NA | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | NY-NA | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | NY-NA | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | NY-S | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | NY-S | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | NY-S | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | OR-C | | <280 | <37 | <34 | <51 | <47 | <58 | <89 | <180 | <71 | <86 |
| SK-1999 | SC-G | | <280 | <37 | <34 | <51 | <47 | <58 | <89 | <180 | <71 | <86 |
| SK-1999 | SD-S | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | SD-S | | <280 | <37 | <34 | <51 | <47 | <58 | <89 | <180 | <71 | <86 |
| SK-1999 | TX-D | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | UT-SLC | | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | UT-SLC | | <280 | <37 | <34 | <51 | <47 | <58 | <89 | <180 | <71 | <86 |
| SK-2000 | GA-C | | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| SK-2000 | GA-N | | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |

WASTE PAINT GUN CLEANER

Total # of Samples: 47

| | | TCLP Semi Volatiles Analysis (ppm) | | | | | | | | | TCLP Vc |
|-------------|-----------------|------------------------------------|---------|----------|-------------|---------|-----------|------------|----------|-----------|-----------|
| Waste Codes | | D030 | D030 | D032 | D033 | D034 | D036 | D037 | D038 | D041 | D042 |
| Parameter | | cresol | 2,4-DNT | Cl6-benz | Cl6-1,3-but | Cl6-eth | nitrobenz | Cl5-phenol | pyridine | 2,4,5-TCP | 2,4,6-TCP |
| Reg. Limit | | 200 | 0.13 | 0.13 | 0.5 | 3 | 2 | 100 | 5 | 400 | 2 |
| LAB | SITE | | | | | | | | | | |
| | Maximum | 0 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | Minimum | 0 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | 90th UCL for | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | 50th Percentile | | | | | | | | | | |

WASTE PAINT GUN CLEANER

Total # of Samples: 47

Volatiles Analysis (ppm)

| Parameter | D010 | D019 | D021 | D022 | D027 | D028 | D029 | D035 | D039 | D040 | D043 | |
|------------|--------|-------------|-------|----------|---------|---------|-------|-------|--------------|--------------|--------------|-------|
| benzene | CCl4 | Clbenz | CHCl3 | 1,4-DCIB | 1,2-DCA | 1,1-DCE | MEK | PCE | TCE | VChloride | | |
| Reg. Limit | 0.5 | 0.5 | 100 | 6 | 7.5 | 0.5 | 0.7 | 200 | 0.7 | 0.5 | 0.2 | |
| LAB | SITE | | | | | | | | | | | |
| SK-2000 | KS-E | <u>44.3</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>25500</u> | <u>44.6</u> | <u>39.1</u> | <1.5 |
| SK-2000 | KS-W | <u>69</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>25200</u> | <u>73.8</u> | <u>61.1</u> | <1.5 |
| SK-2000 | LA-P | <u>94.1</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>31700</u> | <u>179.0</u> | <u>84.7</u> | <1.5 |
| SK-2000 | MO-SC | <u>53.4</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>32300</u> | <u>45.3</u> | <u>62.5</u> | <1.5 |
| SK-2000 | NE-GI | <u>64.2</u> | <20 | <20 | <20 | <50 | <20 | <40 | <u>67500</u> | <u>231.0</u> | <u>53.5</u> | <15 |
| SK-2000 | NE-O | <u>75</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>22700</u> | <u>102.0</u> | <u>113.0</u> | <1.5 |
| SK-2000 | SC-G | <u>65.8</u> | <4.0 | <4.0 | <4.0 | <10.0 | <4.0 | <8.0 | <u>7460</u> | <4.0 | <4.0 | <3.0 |
| SK-2000 | SD-SF | <u>46.6</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>19900</u> | <u>60.8</u> | <u>53.4</u> | <1.5 |
| SK-2000 | SD-SF | <u>57.4</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>32900</u> | <u>72.6</u> | <u>84.8</u> | <1.5 |
| SK-2000 | TX-D | <u>145</u> | <20 | <20 | <20 | <50 | <20 | <40 | <u>48400</u> | <u>30.0</u> | <u>27.9</u> | <15 |
| SK-2000 | FL-BB | <u>43.1</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>22700</u> | <u>46.2</u> | <u>192.0</u> | <1.5 |
| SK-2000 | UT-SLC | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <u>958.6</u> | <0.20 | <0.20 | <0.14 |
| SK-2000 | UT-SLC | <u>40.1</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <u>1190</u> | <2.0 | <2.0 | <1.5 |

WASTE PARTS WASHER SOLVENT -105

Total # of Samples 56

| Physical Properties | | | | TCLP Metals Analysis (ppm) | | | | | | | | |
|---------------------|--------|------|--------|----------------------------|------------|------------|------------|------------|-------------|------------|------------|------------|
| LAB | SITE | pH | SG | D001 FP | D004 As | D006 Ba | D006 Cd | D007 Cr | D008 Pb | D009 Hg | D010 Se | D011 Ag |
| | | 12.5 | 1.4 | < 140 | 5 | 100 | 1 | 5 | 5 | 0.2 | 1 | 5 |
| SK-1999 | FL-M | 6.92 | 0.863 | <u>91</u> | <5.00 | 1.87 | <0.500 | 1.37 | 4.14 | <0.10 | <0.45 | <0.500 |
| SK-1999 | GA-C | 7.13 | 0.813 | 153 | <500 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | GA-M | 7.03 | 0.797 | 157 | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | GA-M | 5.51 | 0.85 | 152 | <5.00 | <0.500 | <0.500 | <0.500 | <u>6.41</u> | <0.10 | <0.45 | <0.500 |
| SK-1999 | GA-N | 5.64 | 0.81 | <u>95</u> | <5.00 | 0.874 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | KS-D | 7 | 0.825 | <u>118</u> | <5.00 | 3.69 | <0.500 | 1.04 | <u>13.7</u> | <0.10 | <0.45 | <0.500 |
| SK-1999 | KS-E | 6.83 | 0.7912 | 158 | <5.00 | 4.76 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | KS-E | 6.98 | 0.8115 | 144 | <5.00 | 1.38 | <0.500 | <0.500 | <4.00 | <0.010 | <0.45 | <0.500 |
| SK-1999 | KS-W | 7.25 | 0.779 | 159 | <5.00 | 3.18 | 0.93 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | KY-A | 8 | 0.816 | <u>121</u> | <5.00 | 21.6 | <0.500 | <0.500 | <u>9.99</u> | <0.10 | <0.45 | <0.500 |
| SK-1999 | KY-A | 5.6 | 0.791 | 119 | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | KY-A | 5.7 | 0.801 | <u>139</u> | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | KY-A | 6.69 | 0.8327 | <u>138</u> | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | KY-A | 8.34 | 0.8486 | <u>133</u> | <5.00 | 0.529 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | KY-A | 7.02 | 0.8218 | <u>117</u> | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | KY-L | 8.1 | 0.82 | 145 | <5.00 | 10.4 | 0.58 | 0.718 | <u>13.1</u> | <0.10 | <0.45 | <0.500 |
| SK-1999 | KY-L | 6.8 | 0.829 | 145 | <5.00 | 1.03 | <0.500 | <0.500 | <u>6.5</u> | <0.10 | <0.45 | <0.500 |
| SK-1999 | LA-K | 6.29 | 0.777 | 170 | <5.00 | 0.847 | <0.500 | <0.500 | <u>6.6</u> | <0.10 | <0.45 | <0.500 |
| SK-1999 | LA-P | 6.96 | 0.784 | <u>113</u> | <5.00 | 1.27 | <0.500 | 0.68 | <u>5.75</u> | <0.10 | <0.45 | <0.500 |
| SK-1999 | ND-B | 6.81 | 0.7874 | 146 | <5.00 | 0.61 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | ND-F | 8.01 | 0.848 | <u>138</u> | <5.00 | 1.39 | <0.500 | <0.500 | <4.00 | <0.040 | <0.45 | <0.500 |
| SK-1999 | NE-GER | 8.09 | 0.8703 | 156 | <5.00 | 1.29 | 0.627 | <0.500 | <4.00 | <0.040 | <0.45 | <0.500 |
| SK-1999 | NM-A | 7.48 | 0.8308 | 155 | <5.00 | 3.94 | <u>1.3</u> | <0.500 | <u>10.5</u> | <0.10 | <0.45 | <0.500 |
| SK-1999 | NM-F | 7.65 | 0.798 | 148 | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | OR-C | 5.45 | 0.824 | <u>100</u> | <5.00 | <0.500 | <0.500 | <0.500 | <0.500 | <0.10 | <0.45 | <0.500 |
| SK-1999 | SC-G | 6.79 | 0.822 | 153 | <5.00 | 2.54 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | SD-S | 6.25 | 0.789 | <u>114</u> | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | SD-S | 7.78 | 0.788 | 158 | <5.00 | 1.56 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | UT-S | 7.42 | 0.774 | 152 | <5.00 | 2.26 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | CA-SAL | 7.44 | 0.81 | 151 | <5.00 | 2.31 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | CO-E | 6.94 | 0.7676 | 152 | <5.00 | 1.29 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | GA-C | 6.62 | 0.7988 | 148 | <5.00 | 10.5 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-2000 | GA-GC | 9.11 | 0.814 | <u>112</u> | <5.00 | <0.500 | <0.500 | 0.53 | <4.0 | <0.040 | <0.008 | <0.500 |

WASTE PARTS WASHER SOLVENT -105

Total # of Samples 57

TCLP Semi-Volatiles Analysis (ppm)

| LAB | SITE | 2000 cresol | D030 2,4-DNT | D032 Cl6-benz | D033 Cl6-1,3-but | D034 Cl6-eth | D036 nitrobenz | D037 Cl5-phenol | D038 pyridine | D041 2,4,6-TCP | D042 2,4,6-TCP |
|---------|--------|----------------|-----------------|------------------|---------------------|-----------------|-------------------|--------------------|------------------|-------------------|-------------------|
| | | 200 | 0.13 | 0.13 | 0.5 | 3 | 2 | 100 | 5 | 400 | 2 |
| SK-1999 | FL-M | 53.716 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | GA-C | <4.9 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | GA-M | 7.516 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | GA-M | 13.142 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | GA-N | 7.036 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | KS-D | 6.697 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | KS-E | <4.9 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | KS-E | <4.9 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | KS-W | <4.9 | <0.10 | <0.005 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | KY-A | <280 | <37 | <34 | <51 | <47 | <58 | <89 | <180 | <71 | <86 |
| SK-1999 | KY-A | <10 | <0.13 | 0.010654 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-1999 | KY-A | <10.1 | <0.13 | <0.0500 | 0.0309 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-1999 | KY-A | <10.0 | <0.13 | <0.0050 | 0.13804 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-1999 | KY-A | <10 | <0.13 | 0.005159 | 0.30701 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-1999 | KY-A | <10.0 | <0.13 | <0.0052 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-1999 | KY-L | <10.0 | <0.13 | <0.00050 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-1999 | KY-L | <10.0 | <0.13 | <0.00050 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-1999 | LA-K | <4.9 | <0.10 | <0.005 | <0.02 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | LA-P | <4.9 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | ND-B | <4.9 | <0.10 | <0.0050 | 0.02381 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | ND-F | 11.631 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.75 | <0.40 | <0.30 | <0.20 | <0.30 |
| SK-1999 | NE-GER | <0.900 | <0.100 | <0.005 | <0.020 | <0.20 | <0.75 | <0.40 | <0.30 | <0.20 | <0.30 |
| SK-1999 | NM-A | <4.9 | <0.10 | <0.0050 | 0.02381 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | NM-F | <10.0 | <0.13 | 0.008306 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-1999 | OR-C | 4.301 | <0.10 | 0.00986 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | SC-G | <10 | <0.13 | <0.0050 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-1999 | SD-S | 29.697 | <0.10 | 0.00872 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | SD-S | 10.33 | <0.10 | <0.005 | <0.02 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | UT-S | 5.61 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-2000 | CA-SAL | <10.0 | <0.13 | <0.025 | <0.10 | <1.0 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-2000 | CO-E | 47.8 | <0.13 | <0.025 | <0.10 | <1.0 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-2000 | GA-C | <10.0 | <0.13 | <0.025 | <0.10 | <1.0 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-2000 | GA-GC | 11 | <0.13 | <0.025 | <0.10 | <1.0 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |

WASTE PARTS \ JHER SOLVENT -105

Total # of Samples 57

TCLP Volatiles Analysis (ppm)

| LAB | SITE | Method | D016 | D019 | D021 | D022 | D027 | D028 | D029 | D035 | D039 | D040 | D043 |
|---------|--------|-----------|-------------|-------|--------|-------|-----------------|---------|---------|--------|-----------------|----------------|-----------|
| | | Parameter | benzene | CCl4 | Cibenz | CHCl3 | 1,4-DCIB | 1,2-DCA | 1,1-DCE | MEK | PCE | TCE | VChloride |
| | | Reg Limit | 0.5 | 0.5 | 100 | 6 | 7.5 | 0.5 | 0.7 | 200 | 0.7 | 0.5 | 0.2 |
| SK-1999 | FL-M | | <u>589</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>18000</u> | <u>8.5</u> | <1.5 |
| SK-1999 | GA-C | | <2.0 | <2.0 | <2.0 | <2.0 | 6.6 | <2.0 | <4.0 | <5.0 | <u>732</u> | <u>2.1</u> | <1.5 |
| SK-1999 | GA-M | | <5.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <10.0 | <u>1503.077</u> | <u>42.801</u> | <2.0 |
| SK-1999 | GA-M | | <u>3.4</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>1020</u> | <u>11.2</u> | <1.5 |
| SK-1999 | GA-N | | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>107</u> | <2.0 | <1.5 |
| SK-1999 | KS-D | | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>308</u> | <u>10.5</u> | <1.5 |
| SK-1999 | KS-E | | <5.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 34.253 | <u>938.568</u> | <u>390.499</u> | <2.0 |
| SK-1999 | KS-E | | <50 | <20 | <20 | <20 | <20 | <20 | <20 | <100 | <u>1081.24</u> | <u>85.466</u> | <20 |
| SK-1999 | KS-W | | <50 | <20 | <20 | <20 | <20 | <20 | <20 | <100 | <u>362</u> | <20 | <20 |
| SK-1999 | KY-A | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>146.65</u> | <2.0 | <1.4 |
| SK-1999 | KY-A | | <u>296</u> | <0.40 | <0.40 | <0.40 | <1.0 | <0.40 | <0.80 | <1.0 | <u>1.5</u> | <0.40 | <0.30 |
| SK-1999 | KY-A | | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>498</u> | <u>7.2</u> | <1.5 |
| SK-1999 | KY-A | | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>1360</u> | <u>17.4</u> | <1.5 |
| SK-1999 | KY-A | | <20 | <20 | <20 | <20 | <50 | <20 | <40 | <50 | <u>866</u> | <20 | <15 |
| SK-1999 | KY-A | | <u>2.3</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | 5.1 | <u>1350</u> | <u>42.7</u> | <1.5 |
| SK-1999 | KY-L | | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>9360</u> | <u>9.9</u> | <1.5 |
| SK-1999 | KY-L | | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | 21.1 | <u>354</u> | <2.0 | <1.5 |
| SK-1999 | LA-K | | <50 | <20 | <20 | <20 | <20 | <20 | <20 | <100 | <u>461</u> | <u>28.4</u> | <20 |
| SK-1999 | LA-P | | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>584</u> | <u>15.2</u> | <1.5 |
| SK-1999 | ND-B | | <5.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <10.0 | <u>287.147</u> | <u>13.063</u> | <2.0 |
| SK-1999 | ND-F | | <5.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <10.0 | <u>119.41</u> | <u>3.285</u> | <2.0 |
| SK-1999 | NE-GER | | <50 | <20 | <20 | <20 | <20 | <20 | <20 | <100 | <u>91.09</u> | <u>228.494</u> | <20 |
| SK-1999 | NM-A | | <5.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <10.0 | <u>19.673</u> | <u>3.044</u> | <2.0 |
| SK-1999 | NM-F | | <u>7.7</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | 8.1 | <u>1450</u> | <u>35.5</u> | <1.5 |
| SK-1999 | OR-C | | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>1880</u> | <u>17.2</u> | <1.5 |
| SK-1999 | SC-G | | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>1410</u> | <u>10.9</u> | <1.5 |
| SK-1999 | SD-S | | <2.0 | <2.0 | <2.0 | <2.0 | <u>10.5</u> | <2.0 | <4.0 | <5.0 | <u>6200</u> | <u>52.3</u> | <1.5 |
| SK-1999 | SD-S | | <5.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 18.4 | <u>916</u> | <u>3.66</u> | <2.0 |
| SK-1999 | UT-S | | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>644</u> | <u>19.4</u> | <1.5 |
| SK-2000 | CA-SAL | | <u>13.8</u> | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>284</u> | <2.0 | <1.5 |
| SK-2000 | CO-E | | <u>4.2</u> | <0.40 | <0.40 | <0.40 | 1.4 | <0.40 | <0.80 | 6.3 | <u>916</u> | <u>51.3</u> | <0.30 |
| SK-2000 | GA-C | | <0.20 | <0.20 | <0.20 | <0.20 | 0.6 | <0.20 | <0.40 | 0.66 | <u>514</u> | <u>2.6</u> | <0.15 |
| SK-2000 | GA-GC | | <u>96.7</u> | <0.20 | <0.20 | <0.20 | <u><0.50</u> | <0.20 | <0.40 | 77.5 | <u>1.1</u> | <0.20 | <0.15 |

WASTE PREMIUM GOLD PARTS WASHER SOLVENT (150)

Total # of Samples: 77

| Physical Properties | | TCLP Metals Analysis (ppm) | | | | | | | | | | |
|---------------------|-----------|----------------------------|-------|------------|-------|--------|-------------|-------|-------------|--------|--------|--------|
| Waste Codes | Parameter | D001 | D001 | D004 | D005 | D006 | D007 | D008 | D009 | D010 | D011 | |
| Reg. Limit | pH | SG | FP | As | Ba | Cd | Cr | Pb | Hg | Se | Ag | |
| < 12.6 | | NA | < 140 | 5 | 100 | 1 | 5 | 5 | 0.2 | 1 | 5 | |
| LAB | SITE | | | | | | | | | | | |
| SK-199E | CO-E | 6.67 | 0.792 | 148 | <5.00 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | CO-GJ | 5.87 | 0.788 | 161 | <5.00 | 1.11 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | CO-P | 6.05 | 0.810 | 161 | <5.00 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | FL-B | 6.80 | 0.809 | 171 | <5.00 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | KS-DC | 6.81 | 0.815 | 160 | <5.00 | 1.21 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | KS-W | 8.27 | 0.805 | 162 | <5.00 | <0.500 | 0.888 | <4.00 | <0.1 | <0.45 | <0.500 | |
| SK-199E | KY-A | 6.70 | 0.825 | 162 | <5.00 | 0.62 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | KY-A | 6.99 | 0.949 | 152 | <5.00 | 2.36 | <0.500 | 0.784 | <u>7.11</u> | <0.10 | <0.45 | <0.500 |
| SK-199E | KY-L | 8.32 | 0.828 | 151 | <5.00 | 29.3 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | KY-L | 6.41 | 0.837 | 160 | <5.00 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | KY-L | 8.36 | 0.821 | 165 | <5.00 | 4.98 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | KY-L | 7.30 | 0.850 | 158 | <5.00 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | KY-L | 6.20 | 0.820 | 154 | <5.00 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | KY-L | 5.18 | 0.800 | 162 | <5.00 | 0.51 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | KY-L | 6.40 | 0.850 | 155 | <5.00 | <0.500 | <0.500 | <4.00 | 0.169 | <0.45 | <0.500 | |
| SK-199E | LA-K | 6.09 | 0.773 | 164 | <5.00 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | LA-P | 6.42 | 0.781 | 168 | <5.00 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | MO-C | 7.53 | 0.811 | 164 | <5.00 | 2.37 | <u>1.15</u> | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | NM-A | 8.65 | 0.818 | 159 | <5.00 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | NM-F | 8.02 | 0.816 | 153 | <5.00 | 1.22 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | NY-A | 6.08 | 0.846 | <u>99</u> | <5.00 | 4.76 | <0.500 | <4.00 | <0.10 | 0.68 | <0.500 | |
| SK-199E | NY-A | 7.67 | 0.840 | 160 | <5.00 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | NY-A | 7.42 | 0.842 | 159 | <5.00 | 2.14 | <u>1.18</u> | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | NY-C | 6.82 | 0.818 | 148 | <5.00 | 1.62 | <u>1.5</u> | <4.00 | 4.9 | <0.10 | <0.45 | <0.500 |
| SK-199E | NY-C | 6.44 | 0.798 | 157 | <5.00 | 0.834 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | NY-C | 7.33 | 0.837 | <u>136</u> | <5.00 | 1.01 | <u>2.69</u> | <4.00 | 4.51 | <0.10 | <0.45 | <0.500 |
| SK-199E | NY-L | 7.29 | 0.811 | 163 | <5.00 | <5.00 | <0.500 | <4.00 | <u>24.4</u> | <0.10 | <0.45 | <0.500 |
| SK-199E | NY-L | 7.56 | 0.821 | 165 | <5.00 | <0.500 | <0.500 | <4.00 | <u>24.7</u> | <0.10 | <0.45 | <0.500 |
| SK-199E | NY-L | 7.15 | 0.786 | 166 | <5.00 | <0.500 | <0.500 | <4.00 | <u>22.8</u> | <0.10 | <0.45 | <0.500 |
| SK-199E | NY-NA | 5.06 | 0.818 | 162 | <5.00 | 2.35 | <0.500 | <4.00 | <0.100 | <0.452 | <0.500 | |
| SK-199E | NY-NA | 5.08 | 0.809 | 159 | <5.00 | 4.09 | 0.738 | <4.00 | <0.190 | <0.859 | <0.500 | |
| SK-199E | NY-NA | 5.11 | 0.819 | 170 | <5.00 | 2.01 | <0.500 | <4.00 | <0.100 | <0.452 | <0.500 | |
| SK-199E | NY-S | 7.01 | 0.794 | 154 | <5.00 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 | |
| SK-199E | NY-S | 7.18 | 0.805 | 165 | <5.00 | 2.63 | <u>4.94</u> | <4.00 | <u>7.52</u> | <0.10 | <0.45 | <0.500 |

WASTE PREMIUM GOLD PARTS WASHER SOLVENT (150)

Total # of Samples: 77

| | | Physical Properties | | TCLP Metals Analysis (ppm) | | | | | | | | |
|--------------|-----------|---------------------|-------|----------------------------|-------|--------|--------|--------|-------|-------|-------|--------|
| Waste Codes: | D002 | | D001 | D004 | D005 | D006 | D007 | D008 | D009 | D010 | D011 | |
| Parameter: | pH | SG | FP | As | Ba | Cd | Cr | Pb | Hg | Se | Ag | |
| Reg Limit: | <2; >12.5 | NA | < 140 | 5 | 100 | 1 | 5 | 5 | 0.2 | 1 | 5 | |
| LAB | SITE | | | | | | | | | | | |
| SK-200C | NY-NA | 7.40 | 0.798 | 180 | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-200C | NY-NA | 7.40 | 0.781 | 158 | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-200C | NY-NA | 7.80 | 0.787 | 181 | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-200C | NY-NA | 7.80 | 0.782 | 158 | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-200C | NY-S | 7.10 | 0.788 | 164 | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-200C | NY-S | 7.40 | 0.796 | 158 | <5.00 | 6.88 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-200C | NY-S | 7.50 | 0.787 | 164 | <5.00 | 7.8 | <0.500 | 0.549 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-200C | TX-D | 7.20 | 0.805 | 158 | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-200C | TX-O | 7.29 | | >140 | <5.00 | 19.2 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |

WASTE PREMIUM GOLD PARTS WASHER SOLVENT (150)

Total # of Samples: 77

TCLP Semi Volatiles Analysis (ppm)

| Waste Codes: | | D026 | D030 | D032 | D033 | D034 | D036 | D037 | D038 | D041 | D042 |
|--------------|-------|--------|---------|----------|-------------|---------|-----------|------------|----------|-----------|-----------|
| Parameter: | | cresol | 2,4-DNT | Cl6-benz | Cl6-1,3-but | Cl6-eth | nitrobenz | Cl5-phenol | pyridine | 2,4,6-TCP | 2,4,6-TCP |
| Reg. Limit: | | 200 | 0.13 | 0.13 | 0.5 | 3 | 2 | 100 | 5 | 400 | 2 |
| LAB | SITE | | | | | | | | | | |
| SK-199E | CO-E | 7.55 | <0.10 | <0.005 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | CO-GJ | 6.4 | <0.10 | <0.005 | <0.020 | 0.202 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | CO-P | <4.9 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | FL-B | <4.9 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | KS-DC | <4.9 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | KS-W | <4.9 | <0.10 | <0.005 | <0.02 | <0.2 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | KY-A | <10.0 | <0.13 | <0.0050 | 0.0208 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-199E | KY-A | <10.0 | <0.13 | <0.0050 | 0.0208 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-199E | KY-L | 10.322 | <0.13 | 0.054207 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-199E | KY-L | <10.0 | <0.13 | 0.0251 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-199E | KY-L | <280 | <37 | <34 | <51 | <47 | <58 | <89 | <180 | <71 | <86 |
| SK-199E | KY-L | <10 | <0.13 | <0.0050 | 0.0208 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-199E | KY-L | <280 | <37 | <34 | <51 | <47 | <58 | <89 | <180 | <71 | <86 |
| SK-199E | KY-L | <280 | <37 | <34 | <51 | <47 | <58 | <89 | <180 | <71 | <86 |
| SK-199E | KY-L | <10.0 | <0.13 | <0.0050 | 0.0208 | <0.20 | 0.34 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-199E | LA-K | <4.9 | <0.10 | 0.00745 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | LA-P | <4.9 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | MO-C | <4.9 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | NM-A | <4.9 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | NM-F | <10.0 | <0.13 | <0.0050 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-199E | NY-A | <4.9 | <0.10 | 0.01797 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | NY-A | <10.0 | <0.13 | <0.0050 | 0.0208 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-199E | NY-A | <10.0 | <0.13 | <0.0050 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-199E | NY-C | 6.618 | <0.10 | 0.00782 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | NY-C | <4.9 | <0.10 | 0.0137 | <0.020 | <0.20 | <0.750 | <0.400 | <0.300 | <0.200 | <0.300 |
| SK-199E | NY-C | 8.319 | <0.10 | 0.1525 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | NY-L | <4.9 | <0.10 | 0.01638 | 0.04305 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | NY-L | <4.9 | <0.10 | 0.01107 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | NY-L | <4.9 | <0.10 | 0.01122 | <0.020 | <0.2 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | NY-NA | <4.9 | <0.10 | 0.00877 | 0.06273 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | NY-NA | <4.9 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | NY-NA | <4.9 | <0.10 | 0.00893 | 0.06421 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | NY-S | <4.9 | <0.10 | 0.01059 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-199E | NY-S | <4.9 | <0.10 | 0.00972 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |

WASTE PREMIUM GOLD PARTS WASHER SOLVENT (150)

Total # of Samples: 77

TCLP Semi Volatiles Analysis (ppm)

| Waste Codes: | | D026 | D030 | D032 | D033 | D034 | D036 | D037 | D038 | D041 | D042 |
|--------------|-------|--------|---------|----------|-------------|---------|-----------|------------|----------|-----------|-----------|
| Parameter: | | cresol | 2,4-DNT | Cl6-benz | Cl6-1,3-but | Cl6-eth | nitrobenz | Cl6-phenol | pyridine | 2,4,6-TCP | 2,4,6-TCP |
| Reg. Limit: | | 200 | 0.13 | 0.13 | 0.5 | 3 | 2 | 100 | 5 | 400 | 2 |
| LAB | SITE | | | | | | | | | | |
| SK-200C | NY-NA | <10.0 | <0.13 | <0.025 | <0.020 | <0.2 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-200C | NY-NA | <10.0 | <0.13 | <0.0050 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-200C | NY-NA | <10.0 | <0.13 | <0.0050 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-200C | NY-NA | <10.0 | <0.13 | <0.0050 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-200C | NY-S | <10.0 | <0.13 | 0.010796 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-200C | NY-S | <10.0 | <0.13 | 0.009367 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-200C | NY-S | <10.0 | <0.13 | 0.013648 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-200C | TX-D | <10.0 | <0.13 | <0.0050 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |
| SK-200C | TX-O | <10.0 | <0.13 | <0.025 | <0.020 | <0.20 | <0.40 | <5.0 | <1.0 | <5.0 | <2.0 |

WASTE PREMIUM GOLD PARTS WASHER SOLVENT (150)

Total # of Samples: 77

| | | TCLP Volatiles Analysis (ppm) | | | | | | | | | | |
|--------------|-------|-------------------------------|-------|--------|-------|-------------|---------|---------|-------------|---------------|-------------|-----------|
| Waste Codes. | | D018 | D019 | D021 | D022 | D027 | D028 | D029 | D035 | D039 | D040 | D043 |
| Parameter. | | benzene | CCl4 | Cibenz | CHCl3 | 1,4-DCIB | 1,2-DCA | 1,1-DCE | MEK | PCE | TCE | VChloride |
| Reg Limit. | | 0.5 | 0.5 | 100 | 6 | 7.5 | 0.5 | 0.7 | 200 | 0.7 | 0.5 | 0.2 |
| LAB | SITE | | | | | | | | | | | |
| SK-1998 | CO-E | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.4 | <0.5 | 0.33 | <0.2 | <0.15 |
| SK-1998 | CO-GJ | <20 | <20 | <20 | <20 | <50 | <20 | <40 | <40 | <u>2200</u> | <u>67.6</u> | <15 |
| SK-1998 | CO-P | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | 12.4 | <u>32.2</u> | <u>2.4</u> | <1.5 |
| SK-1998 | FL-B | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.40 | <0.50 | 0.42 | <0.20 | <0.15 |
| SK-1998 | KS-DC | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>7.00</u> | <2.0 | <1.5 |
| SK-1998 | KS-W | <5.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <u>22.6</u> | <u>36.8</u> | <2.0 | <2.0 |
| SK-1998 | KY-A | <0.40 | <0.40 | <0.40 | <0.40 | <1.0 | <0.40 | <0.80 | <1.0 | <u>27.4</u> | <0.40 | <0.30 |
| SK-1998 | KY-A | <0.2 | <0.2 | <0.2 | <0.2 | <u>21.2</u> | <0.20 | <0.40 | <0.50 | <u>14.6</u> | <0.20 | <0.15 |
| SK-1998 | KY-L | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>146</u> | <2.0 | <1.5 |
| SK-1998 | KY-L | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | 9.7 | <2.0 | <u>895</u> | <1.5 |
| SK-1998 | KY-L | <0.2 | <0.2 | <0.2 | <0.2 | <0.50 | <0.20 | <0.40 | <0.50 | <0.20 | <0.20 | <0.15 |
| SK-1998 | KY-L | <0.2 | <0.2 | <0.2 | <0.2 | <0.50 | <0.20 | <0.40 | <0.50 | <u>0.69</u> | <0.20 | <0.15 |
| SK-1998 | KY-L | <0.20 | <0.20 | <0.20 | <0.20 | 1.5 | <0.20 | <0.40 | <0.50 | 0.4 | <0.20 | <0.15 |
| SK-1998 | KY-L | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.50 | <0.20 | <0.20 | <0.14 |
| SK-1998 | KY-L | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <2.0 | <2.0 | <1.5 |
| SK-1998 | LA-K | <5.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <10.0 | <2.5 | <u>6.22</u> | <2.0 |
| SK-1998 | LA-P | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.40 | <0.50 | <u>2.1</u> | <0.20 | <0.15 |
| SK-1998 | MO-C | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>56.8</u> | <2.0 | <1.5 |
| SK-1998 | NM-A | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <1.0 | 0.289 | <0.20 | <0.20 |
| SK-1998 | NM-F | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>16800</u> | <2.0 | <1.5 |
| SK-1998 | NY-A | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>6.2</u> | <u>77.6</u> | <1.5 |
| SK-1998 | NY-A | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>1180</u> | <2.0 | <1.5 |
| SK-1998 | NY-A | <0.2 | <0.2 | <0.2 | <0.2 | 0.9 | <0.2 | <0.4 | <0.5 | <u>3.9</u> | <0.20 | <0.15 |
| SK-1998 | NY-C | <2.0 | <2.00 | <2.00 | <2.00 | <5.0 | <2.0 | <4.0 | <5.0 | <u>1750</u> | <u>2.3</u> | <1.5 |
| SK-1998 | NY-C | <u>2.8</u> | <2.00 | <2.00 | <2.00 | <5.0 | <2.0 | <4.0 | 14.8 | <u>386</u> | <2.0 | <1.5 |
| SK-1998 | NY-C | <u>51.8</u> | <2.00 | <2.00 | <2.00 | <5.0 | <2.0 | <4.0 | <5.0 | <u>11.8</u> | <2.0 | <1.5 |
| SK-1998 | NY-L | <0.50 | <0.20 | <0.20 | <0.20 | 0.838 | <0.20 | <0.20 | <1.0 | <u>1.603</u> | <0.20 | <0.20 |
| SK-1998 | NY-L | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 | 0.812 | <0.20 | <1.0 | <u>1.428</u> | <0.20 | <0.20 |
| SK-1998 | NY-L | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 | 0.842 | <0.20 | <0.20 | <u>1.513</u> | <0.20 | <0.20 |
| SK-1998 | NY-NA | <0.50 | <0.20 | <0.20 | <0.20 | 1.195 | <0.20 | <0.20 | 3.022 | <u>1.073</u> | <0.20 | <0.20 |
| SK-1998 | NY-NA | <0.50 | <0.20 | <0.20 | <0.20 | 0.895 | <0.20 | <0.20 | 5.566 | 0.337 | <0.20 | <0.20 |
| SK-1998 | NY-NA | <0.50 | <0.20 | <0.20 | <0.20 | 1.031 | <0.20 | <0.20 | 2.648 | <u>1.231</u> | <0.20 | <0.20 |
| SK-1998 | NY-S | <5.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <10.0 | <u>514.78</u> | <2.0 | <2.0 |
| SK-1998 | NY-S | <u>1.956</u> | <0.20 | <0.20 | <0.20 | 0.816 | <0.20 | <0.20 | 1.494 | <u>1.474</u> | <0.20 | <0.20 |

WASTE PREMIUM GOLD 1 KTS WASHER SOLVENT (150)

Total # of Samples: 77

TCLP Volatiles Analysis (ppm)

| Waste Codes. | D018 | D019 | D021 | D022 | D027 | D028 | D029 | D035 | D039 | D040 | D043 | |
|--------------|---------|------------|--------|-------|----------|---------|---------|-------|-------|-------------|-------------|-------|
| Parameter: | benzene | CCl4 | Cibenz | CHCl3 | 1,4-DCIB | 1,2-DCA | 1,1-DCE | MEK | PCE | TCE | VChloride | |
| Reg. Limit. | 0.5 | 0.5 | 100 | 6 | 7.5 | 0.5 | 0.7 | 200 | 0.7 | 0.5 | 0.2 | |
| LAB | SITE | | | | | | | | | | | |
| SK-200C | NY-NA | 0.26 | <0.2 | <0.2 | <0.2 | <0.50 | <0.20 | <0.40 | <0.50 | <u>3.2</u> | <0.20 | <0.15 |
| SK-200C | NY-NA | 0.23 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.40 | <0.50 | <u>3.3</u> | <0.20 | <0.15 |
| SK-200C | NY-NA | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.40 | <0.50 | <u>4.6</u> | <u>0.59</u> | <0.15 |
| SK-200C | NY-NA | 0.22 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.40 | <0.50 | <u>3.2</u> | <0.20 | <0.15 |
| SK-200C | NY-S | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>2920</u> | <2.0 | <1.5 |
| SK-200C | NY-S | <u>1.4</u> | <0.20 | <0.20 | <0.20 | 0.81 | <0.20 | <0.40 | <0.50 | <u>13.2</u> | <0.20 | <0.15 |
| SK-200C | NY-S | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <u>335</u> | <u>26.5</u> | <1.5 |
| SK-200C | TX-D | <0.2 | <0.2 | <0.2 | <0.2 | 0.96 | <0.20 | <0.40 | <0.50 | <0.20 | <0.20 | <0.15 |
| SK-200C | TX-O | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.40 | <0.50 | <u>779</u> | <u>247</u> | <0.15 |

WASTE PARTS WASHER SOLVENT (105/150)

Total # of Samples: 50

| | | Physical Properties | | TCLP Metals Analysis (ppm) | | | | | | | | |
|------------|--------|---------------------|--------|----------------------------|--------|--------|-------------|--------|-------------|--------|--------|--------|
| Codes: | | D002 | | D001 | D004 | D005 | D006 | D007 | D008 | D009 | D010 | D011 |
| Parameter: | | pH | SG | FP | As | Ba | Cd | Cr | Pb | Hg | Se | Ag |
| Reg Limit: | | <2, >12.5 | NA | < 140 | 5 | 100 | 1 | 5 | 5 | 0.2 | 1 | 5 |
| LAB | SITE | | | | | | | | | | | |
| SK-1998 | CO-E | 6.3 | 0.78 | <u>134</u> | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.040 | <0.452 | <0.500 |
| SK-1998 | MN-B | 7.53 | 0.82 | <u>145</u> | <5.00 | 1.18 | <0.500 | <0.500 | <u>5.97</u> | <0.040 | <0.45 | <0.500 |
| SK-1998 | MN-B | 7.44 | 0.81 | <u>141</u> | <5.00 | 1.32 | <0.500 | <0.500 | <u>5.74</u> | <0.040 | <0.45 | <0.500 |
| SK-1998 | MN-B | 7.53 | 0.822 | <u>154</u> | <5.00 | 0.995 | <0.500 | <0.500 | <4.00 | <0.040 | <0.45 | <0.500 |
| SK-1998 | MN-E | 7.55 | 0.8 | <u>142</u> | <5.00 | 1.79 | 0.64 | <0.500 | <u>5.79</u> | <0.040 | <0.45 | <0.500 |
| SK-1998 | MN-E | 7.14 | 0.81 | <u>147</u> | <5.00 | 1.46 | 0.604 | <0.500 | <u>5.27</u> | <0.040 | <0.45 | <0.500 |
| SK-1998 | MN-E | 7.85 | 0.825 | <u>151</u> | <5.00 | 1.7 | <0.500 | <0.500 | <4.00 | <0.040 | <0.45 | <0.500 |
| SK-1998 | NE-GI | 8.31 | 0.79 | <u>134</u> | <5.00 | 1.26 | <u>1.20</u> | <0.500 | <u>10.3</u> | <0.040 | <0.45 | <0.500 |
| SK-1998 | NE-O | 7.69 | 0.85 | <u>135</u> | <5.00 | 1.5 | <0.500 | <0.500 | <4.00 | <0.040 | <0.450 | <0.500 |
| SK-1998 | NY-C | 6.74 | 1.14 | <u>135</u> | <5.00 | 3.43 | <0.500 | <0.500 | <4.00 | <0.040 | <0.45 | <0.500 |
| SK-1998 | NY-C | 6.74 | 1.14 | <u>135</u> | <5.00 | 3.43 | <0.500 | <0.500 | <4.00 | <0.040 | <0.45 | <0.500 |
| SK-1998 | NY-L | 6.65 | 0.84 | <u>146</u> | <5.00 | 9.69 | 0.779 | 1.21 | <u>31.4</u> | <0.040 | <0.45 | <0.500 |
| SK-1998 | NY-NA | 6.47 | 0.81 | <u>134</u> | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.040 | <0.45 | <0.500 |
| SK-1999 | MN-B | 7.61 | 0.823 | <u>160</u> | <5.00 | 1.26 | <0.500 | <0.500 | <4.01 | <0.040 | <0.45 | <0.500 |
| SK-1999 | MN-B | 7.18 | 0.834 | <u>159</u> | <5.00 | 0.974 | <0.500 | <0.500 | <4.00 | <0.040 | <0.45 | <0.500 |
| SK-1999 | MN-B | 10.34 | 0.9725 | >200 | <5.00 | 3.92 | <0.500 | <0.500 | <4.02 | <0.10 | <0.45 | <0.500 |
| SK-1999 | MN-B | 8.09 | 1.1637 | <u>145</u> | <0.635 | 2.04 | 0.547 | <0.064 | 2.5 | <0.004 | <0.741 | <0.064 |
| SK-1999 | MN-B | 7.22 | 0.809 | <u>128</u> | <5.00 | 2.11 | 0.574 | 0.854 | <u>9.55</u> | <0.10 | <0.45 | <0.500 |
| SK-1999 | MN-E | 6.65 | 0.839 | <u>148</u> | <5.00 | 1.37 | <0.500 | <0.500 | <u>5.8</u> | <0.040 | <0.45 | <0.500 |
| SK-1999 | MN-E | 6.42 | 0.851 | <u>148</u> | <5.00 | 1.74 | <0.500 | <0.500 | <u>5.79</u> | <0.040 | <0.45 | <0.500 |
| SK-1999 | MN-E | 6.28 | 0.828 | <u>120</u> | <5.00 | 1.31 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | MN-E | 5.3 | 0.795 | <u>121</u> | <5.00 | 1.36 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | NE-GER | 7.58 | 0.863 | <u>134</u> | <5.00 | <0.500 | <0.500 | <0.500 | <4.01 | <0.040 | <0.45 | <0.500 |
| SK-1999 | NE-GI | 7.42 | 0.8082 | <u>151</u> | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | NE-O | 6.61 | 0.792 | <u>145</u> | <5.00 | 0.848 | 0.926 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | NE-O | 6.04 | 0.822 | <u>144</u> | <5.00 | 1.42 | <0.500 | 0.665 | 4.54 | <0.10 | <0.45 | <0.500 |
| SK-1999 | NE-O | 6.64 | 0.819 | <u>138</u> | <5.00 | 3.5 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | NE-O | 6.53 | 0.824 | <u>93</u> | <5.00 | 3.45 | <0.500 | 1.03 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | NE-O | 6.87 | 0.818 | <u>89</u> | <5.00 | 3.45 | <0.500 | <0.500 | <4.00 | <0.10 | <0.45 | <0.500 |
| SK-1999 | NY-A | 9.84 | 1 | <u>198</u> | <5.00 | 5.95 | 0.502 | 0.848 | <u>6.7</u> | <0.10 | <0.45 | <0.500 |
| SK-1999 | NY-C | 6.1 | 0.8121 | <u>140</u> | <5.00 | 0.823 | <0.500 | <0.500 | <4.01 | <0.10 | <0.45 | <0.500 |
| SK-1999 | NY-L | 6.56 | 0.8 | <u>89</u> | <5.00 | 2.08 | <0.500 | <0.500 | <4.01 | <0.10 | <0.45 | <0.500 |

WASTE PARTS WASHING SOLVENT (105/150)

Total # of Samples: 50

TCLP Semi Volatiles Analysis (ppm)

| | | Codes: D026 | D030 | D032 | D033 | D034 | D036 | D037 | D038 | D041 | D042 |
|---------|--------|-------------------|---------|----------|-------------|---------|-----------|------------|----------|-----------|-----------|
| | | Parameter: cresol | 2,4-DNT | Cl6-benz | Cl6-1,3-but | Cl6-eth | nitrobenz | Cl6-phenol | pyridine | 2,4,6-TCP | 2,4,6-TCP |
| | | Reg Limit: 200 | 0.13 | 0.13 | 0.5 | 3 | 2 | 100 | 5 | 400 | 2 |
| LAB | SITE | | | | | | | | | | |
| SK-1998 | CO-E | 54.3 | <0.100 | 0.008 | <0.020 | <0.200 | <0.750 | <0.400 | <0.300 | <0.200 | <0.300 |
| SK-1998 | MN-B | <0.900 | <0.100 | 0.022 | <0.017 | <0.067 | <0.750 | <0.400 | <0.300 | <0.200 | <0.300 |
| SK-1998 | MN-B | 11.1 | <0.100 | 0.021 | <0.017 | <0.067 | <0.750 | <0.400 | <0.300 | <0.200 | <0.300 |
| SK-1998 | MN-B | 7.24 | <0.100 | 0.009 | <0.020 | <0.200 | <0.750 | <0.400 | <0.300 | <0.200 | <0.300 |
| SK-1998 | MN-E | 9.54 | <0.100 | 0.016 | <0.017 | <0.067 | <0.750 | <0.400 | <0.300 | <0.200 | <0.300 |
| SK-1998 | MN-E | 8.44 | <0.100 | 0.016 | <0.017 | <0.067 | <0.750 | <0.400 | <0.300 | <0.200 | <0.300 |
| SK-1998 | MN-E | 7.51 | <0.100 | 0.034 | 0.036 | <0.200 | <0.750 | <0.400 | <0.300 | <0.200 | <0.300 |
| SK-1998 | NE-GI | <0.900 | <0.100 | 0.009 | 0.035 | <0.067 | <0.750 | <0.400 | <0.300 | <0.200 | <0.300 |
| SK-1998 | NE-O | <357 | <105 | <112 | <147 | <140 | <133 | <392 | <462 | <161 | <273 |
| SK-1998 | NY-C | 29.7 | <0.100 | 0.083 | 0.065 | <0.067 | <0.750 | <0.400 | <0.300 | <0.200 | <0.300 |
| SK-1998 | NY-C | 29.7 | <0.100 | 0.083 | 0.065 | <0.067 | <0.750 | <0.400 | <0.300 | <0.200 | <0.300 |
| SK-1998 | NY-L | 4.82 | <0.100 | 0.006 | <0.017 | <0.067 | <0.750 | <0.400 | <0.300 | <0.200 | <0.300 |
| SK-1998 | NY-NA | 14.12 | <0.100 | 0.009 | 0.033 | <0.067 | <0.750 | <0.400 | <0.300 | <0.200 | <0.300 |
| SK-1999 | MN-B | <0.90 | <0.10 | 0.01797 | 0.04716 | <0.20 | <0.75 | <0.40 | <0.30 | <0.20 | <0.30 |
| SK-1999 | MN-B | <0.090 | <0.10 | 0.0082 | 0.3548 | <0.20 | <0.75 | <0.40 | <0.30 | <0.20 | <0.30 |
| SK-1999 | MN-B | <5.8 | <0.11 | <0.093 | <0.31 | <0.30 | <0.27 | <2.3 | <0.13 | <3.4 | <1.6 |
| SK-1999 | MN-B | <14.03 | <3.96 | <6.71 | <7.01 | <6.10 | <5.79 | <14.3 | <18.0 | <6.10 | <9.15 |
| SK-1999 | MN-B | 9.754 | <0.10 | 0.02025 | <0.02 | 0.84325 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | MN-E | <0.90 | <0.10 | 0.00867 | 0.02656 | <0.20 | <0.75 | <0.40 | <0.30 | <0.20 | <0.30 |
| SK-1999 | MN-E | <0.90 | <0.10 | 0.00584 | 0.02452 | <0.20 | <0.75 | <0.40 | <0.30 | <0.20 | <0.30 |
| SK-1999 | MN-E | 2.478 | <0.10 | 0.00816 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | MN-E | 3.026 | <0.10 | <0.0050 | <0.02 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | NE-GER | 16.818 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.750 | <0.400 | <0.300 | <0.200 | <0.300 |
| SK-1999 | NE-GI | <4.9 | <0.10 | <0.0050 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | NE-O | 12.122 | <0.10 | 0.00756 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | NE-O | 10.591 | <0.10 | <0.0050 | <0.02 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | NE-O | 15.428 | <0.10 | 0.0069 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | NE-O | 15.776 | <0.10 | 0.00691 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | NE-O | 11.995 | <0.10 | 0.00684 | <0.020 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |
| SK-1999 | NY-A | <4.6 | <1.3 | <2.2 | <2.3 | <2.0 | <1.9 | <4.7 | <5.9 | <2.0 | <3.0 |
| SK-1999 | NY-C | 21.219 | <0.10 | 0.0057 | <0.020 | <0.20 | <0.46 | <8.2 | <0.33 | <4.8 | <1.4 |
| SK-1999 | NY-L | 16.407 | <0.10 | <0.005 | <0.02 | <0.20 | <0.46 | <8.1 | <0.32 | <4.7 | <1.3 |

WASTE PARTS WASHER SOLVENT (105/150)

Total # of Samples: 50

TCLP Volatiles Analysis (ppm)

| | | D018 | D019 | D021 | D022 | D027 | D028 | D029 | D035 | D039 | D040 | D043 |
|-------------|--------|---------|-------|--------|--------|----------|---------|---------|--------|----------|--------|-----------|
| Codes: | | D018 | D019 | D021 | D022 | D027 | D028 | D029 | D035 | D039 | D040 | D043 |
| Parameter: | | benzene | CCI4 | Cibenz | CHCl3 | 1,4-DCIB | 1,2-DCA | 1,1-DCE | MEK | PCE | TCE | VChloride |
| Reg. Limit: | | 0.5 | 0.5 | 100 | 6 | 7.5 | 0.5 | 0.7 | 200 | 0.7 | 0.5 | 0.2 |
| LAB | SITE | | | | | | | | | | | |
| SK-1998 | CO-E | 3.7 | <2.00 | 4.9 | <2.00 | 60.6 | <2.00 | <4.00 | <10.00 | 504 | 46.5 | <2.00 |
| SK-1998 | MN-B | <2.00 | <2.00 | <2.00 | <2.00 | 3.7 | <2.00 | <4.00 | <10.00 | 1710 | 72.9 | <2.00 |
| SK-1998 | MN-B | <2.00 | <2.00 | <2.00 | <2.00 | 3.9 | <2.00 | <4.00 | <10.00 | 1820 | 77.2 | <2.00 |
| SK-1998 | MN-B | 6.7 | <2.00 | <2.00 | <2.00 | 4.3 | <2.00 | <4.00 | 12.2 | 837 | 24.4 | <2.00 |
| SK-1998 | MN-E | 11.3 | <2.00 | <2.00 | <2.00 | 3.2 | <2.00 | <4.00 | 12.5 | 788 | 462 | <2.00 |
| SK-1998 | MN-E | 10.8 | <2.00 | <2.00 | <2.00 | 3.5 | <2.00 | <4.00 | 12.5 | 775 | 444 | <2.00 |
| SK-1998 | MN-E | 3.9 | <2.00 | <2.00 | <2.00 | <2.00 | <2.00 | <4.00 | <10.00 | 732 | 61.4 | <2.00 |
| SK-1998 | NE-GI | 32.2 | <2.00 | <2.00 | <2.00 | <2.00 | <2.00 | <4.00 | <10.00 | 1020 | 182 | <2.00 |
| SK-1998 | NE-O | 5.98 | <1.43 | <1.43 | <1.43 | 4.09 | <1.43 | <2.83 | 7.81 | 625 | 35.9 | <1.44 |
| SK-1998 | NY-C | <2.00 | <2.00 | <2.00 | <2.00 | 15.6 | <2.00 | <4.00 | <10.00 | 676 | 13.2 | <2.00 |
| SK-1998 | NY-C | <2.00 | <2.00 | <2.00 | <2.00 | 15.6 | <2.00 | <4.00 | <10.00 | 676 | 13.2 | <2.00 |
| SK-1998 | NY-L | 4.6 | <2.00 | <2.00 | <2.00 | 3.9 | <2.00 | <4.00 | <10.00 | 775 | 22.9 | <2.00 |
| SK-1998 | NY-NA | <2.00 | <2.00 | <2.00 | <2.00 | 9.4 | <2.00 | <4.00 | <10.00 | 306 | <2.00 | <2.00 |
| SK-1999 | MN-B | <5.0 | <2.0 | 5.045 | <2.0 | 4.215 | <2.0 | <2.0 | <10.0 | 794.114 | 29.416 | <2.0 |
| SK-1999 | MN-B | <5.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 10.543 | 1259.356 | 23.407 | <2.0 |
| SK-1999 | MN-B | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | 99.3 | <2.0 | <1.4 |
| SK-1999 | MN-B | <2.09 | <2.00 | <2.00 | <2.00 | 2.24 | <2.00 | <2.00 | <5.15 | 41.8 | 2.28 | <1.42 |
| SK-1999 | MN-B | 6.7 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | 11.3 | 1770 | 19.9 | <1.5 |
| SK-1999 | MN-E | <5.0 | <2.0 | <2.0 | <2.0 | 4.359 | <2.0 | <2.0 | <10.00 | 1000.548 | 82.888 | <2.0 |
| SK-1999 | MN-E | <5.0 | <2.0 | <2.0 | <2.0 | 4.684 | <2.0 | <2.0 | <10.0 | 835.451 | 66.57 | <2.0 |
| SK-1999 | MN-E | 1.7 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | 6.6 | 863 | 33.2 | <1.5 |
| SK-1999 | MN-E | 2.3 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | 11.1 | 960 | 36.2 | <1.5 |
| SK-1999 | NE-GER | 11.026 | <2.00 | <0.200 | <0.200 | 6.288 | <2.0 | <2.0 | <10.0 | 1254.016 | 39.584 | <2.0 |
| SK-1999 | NE-GI | 5.824 | <2.0 | <2.0 | <2.0 | 3.947 | <2.0 | <2.0 | <10.0 | 212.895 | 4.933 | <2.0 |
| SK-1999 | NE-O | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | 454 | 2.8 | <1.5 |
| SK-1999 | NE-O | 5.7 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | 13.8 | 3670 | 534 | <1.5 |
| SK-1999 | NE-O | 4.1 | <2.0 | <2.0 | <2.0 | 5.1 | <2.0 | <4.0 | <5.0 | 2330 | 401 | <1.5 |
| SK-1999 | NE-O | 3.1 | <2.0 | <2.0 | <2.0 | 5.4 | <2.0 | <4.0 | <5.0 | 2310 | 383 | <1.5 |
| SK-1999 | NE-O | 3.9 | <2.0 | <2.0 | <2.0 | 6.1 | <2.0 | <4.0 | <5.0 | 2730 | 426 | <1.5 |
| SK-1999 | NY-A | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | 7.31 | <2.0 | <1.4 |
| SK-1999 | NY-C | <5.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <10.0 | 431.908 | 341.44 | <2.0 |
| SK-1999 | NY-L | 2 | <2.0 | <2.0 | <2.0 | 6.3 | <2.0 | <4.0 | <5.0 | 1020 | 6.3 | <1.5 |

WASTE PAR WASHER SLUDGE

Total # of Samples: 82

| | | Physical Properties | | | TCLP Metals Analysis (ppm) | | | | | | | TCLP Sem |
|--------------|-------|---------------------|------|-------|----------------------------|-------|--------|--------|--------|---------|--------|----------|
| Waste Codes: | | D002 | | D001 | D004 | D005 | D006 | D007 | D008 | D009 | D010 | D011 |
| Parameter: | | pH | SG | FP | As | Ba | Cd | Cr | Pb | Hg | Se | Ag |
| Reg. Limit: | | <2; >12.5 | NA | < 140 | 5 | 100 | 1 | 5 | 5 | 0.2 | 1 | 5 |
| LAB | SITE | | | | | | | | | | | |
| SK-1999 | CO-E | 7.67 | 1.50 | 140 | <0.500 | 1.59 | 0.755 | 0.138 | 5.33 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | GA-C | 7.78 | 1.17 | 160 | <0.545 | 0.865 | 0.329 | <0.055 | 0.774 | <0.002 | <0.747 | <0.055 |
| SK-1999 | GA-GC | 5.71 | 1.15 | 155 | <0.500 | 0.522 | 0.379 | <0.050 | 8.79 | <0.010 | <0.750 | <0.050 |
| SK-1999 | GA-GC | 7.26 | 1.99 | >200 | <0.500 | 0.097 | <0.050 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | GA-M | 6.91 | 0.92 | 160 | <0.500 | 3.07 | 0.59 | 0.357 | 2.7 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | GA-N | 8.41 | 1.13 | 119 | <0.545 | 0.927 | 0.591 | <0.055 | 1.00 | <0.002 | <0.747 | <0.055 |
| SK-1999 | KS-DC | 7.35 | 1.22 | 172 | <0.635 | 0.759 | 0.471 | 0.078 | 9.83 | <0.004 | <0.741 | 0.068 |
| SK-1999 | KS-W | 8.3 | 1.58 | >200 | <0.500 | 2.47 | 0.342 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | LA-K | 7.86 | 1.42 | >200 | <0.590 | 0.714 | 0.662 | <0.059 | 31.2 | <0.003 | <0.744 | <0.059 |
| SK-1999 | LA-P | 6.55 | 0.90 | 140 | <0.500 | 0.629 | <0.050 | 0.169 | 70.1 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | MO-C | 9.02 | 1.16 | 165 | <0.680 | 2.31 | 0.4 | 0.105 | 1.04 | <0.005 | <0.738 | <0.068 |
| SK-1999 | MO-GA | 6.89 | 1.03 | 112 | <0.725 | 1.62 | 0.107 | <0.073 | <0.580 | <0.006 | <0.735 | <0.073 |
| SK-1999 | NC-A | 7.47 | 1.33 | 135 | <0.500 | 1.03 | 0.397 | 0.109 | 0.595 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NC-R | 7.59 | 1.20 | 109 | <0.815 | 2.27 | 0.641 | <0.082 | 1.02 | <0.008 | <0.729 | <0.082 |
| SK-1999 | ND-F | 8.4 | 0.99 | 148 | <0.635 | 1.57 | 0.806 | <0.064 | 0.841 | <0.002 | <0.741 | <0.064 |
| SK-1999 | ND-F | 8.28 | 1.57 | 175 | <0.545 | 0.772 | 0.643 | 0.055 | 0.517 | <0.002 | <0.747 | <0.055 |
| SK-1999 | NE-GI | 8.12 | 0.83 | 188 | <0.500 | 1.1 | 0.352 | 0.216 | 1.9 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NE-O | 7.71 | 1.05 | 143 | <0.725 | 0.465 | 1.27 | 0.077 | 0.711 | <0.006 | <0.735 | 0.154 |
| SK-1999 | NM-F | 6.33 | 1.11 | 159 | <0.680 | 1.6 | 0.44 | <0.068 | 1.93 | <0.005 | <0.738 | <0.068 |
| SK-1999 | NY-A | 7.22 | 1.76 | 121 | <0.500 | 1.04 | 0.448 | <0.050 | 7.94 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-A | 9.36 | 1.15 | >200 | <0.635 | 1.57 | 0.886 | 0.073 | 2.42 | <0.004 | <0.741 | <0.064 |
| SK-1999 | NY-A | 9.6 | 1.50 | >200 | <0.725 | 1.34 | 0.573 | <0.073 | 1.7 | <0.006 | <0.735 | <0.073 |
| SK-1999 | NY-C | 7.99 | 1.64 | 119 | <0.500 | 4.27 | 0.611 | 0.186 | 4.01 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-C | 8.36 | 1.79 | 87 | <0.500 | 0.85 | 0.796 | <0.050 | 2.64 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-L | 6.57 | 0.95 | >200 | <0.500 | 0.239 | <0.050 | <0.050 | 46.8 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-L | 8.1 | 0.93 | >200 | <0.500 | 2.98 | 0.213 | <0.050 | 1.05 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-NA | 8.56 | 0.87 | 144 | <1.04 | 2.02 | 0.711 | 0.139 | 1.76 | <0.013 | <0.714 | <0.104 |
| SK-1999 | NY-NA | 8.3 | 0.96 | 115 | <0.725 | 1.62 | 0.677 | 0.093 | 1.44 | <0.006 | <0.735 | <0.073 |
| SK-1999 | NY-S | 8.68 | 1.07 | 110 | <0.500 | 3.1 | 0.796 | <0.050 | 0.967 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-S | 8.79 | 0.82 | 190 | <0.500 | 1.7 | 0.368 | 0.077 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | NY-S | 9.1 | 1.50 | 152 | <0.500 | 2.24 | 0.571 | <0.050 | 0.902 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | OR-C | 7.86 | 1.42 | 126 | <0.500 | 1.9 | 1.27 | <0.050 | 3.71 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | SC-G | 6.6 | 0.95 | 144 | <0.500 | 4.14 | 0.397 | <0.050 | 2.55 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | SD-S | 7.04 | 0.81 | >200 | <0.500 | 1.27 | 0.874 | <0.050 | 1.03 | <0.0008 | <0.750 | <0.050 |

WASTE PARTS WASHER SLUDGE

Total # of Samples: 82

TCLP Metals Analysis (ppm)

TCLP Sem

| Physical Properties | | D002 | D001 | TCLP Metals Analysis (ppm) | | | | | | | TCLP Sem | |
|---------------------|--------|-------|-------|----------------------------|--------|-------|-------------|--------|-------------|---------|----------|--------|
| | | pH | SG | FP | As | Ba | Cd | Cr | Pb | Hg | Se | Ag |
| | | >12.5 | NA | <140 | 5 | 100 | 1 | 5 | 5 | 0.2 | 1 | 5 |
| LAB | SITE | | | | | | | | | | | |
| SK-2000 | NY-C | 6.78 | 1.40 | <u>137</u> | <0.500 | 0.935 | 0.438 | <0.050 | 0.774 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | NY-C | 6.68 | 1.40 | <u>119</u> | <0.500 | 0.47 | 0.307 | <0.050 | 0.697 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | NY-L | 7.02 | 1.21 | 141 | <0.500 | 1.15 | 0.84 | <0.050 | 1.93 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | NY-L | 8.36 | 1.15 | 150 | <0.500 | 1.32 | 0.557 | <0.050 | 1.45 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | NY-L | 7.44 | 1.14 | 142 | <0.500 | 1.96 | 0.522 | <0.050 | 0.633 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | NY-NA | 6.46 | 1.53 | <u>91</u> | <0.500 | 0.971 | <u>8.57</u> | <0.050 | <u>14.4</u> | 0.0009 | <0.750 | <0.050 |
| SK-2000 | NY-S | 6.24 | 1.40 | <u>120</u> | <0.500 | 2.08 | 0.405 | <0.050 | 0.697 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | NY-S | 7.04 | 1.34 | 142 | <0.500 | 1.36 | 0.266 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | SC-G | 7.06 | 1.15 | 143 | <0.500 | 0.488 | 0.276 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | SD-SF | 7.4 | 1.50 | <u>108</u> | <0.500 | 1.14 | <u>1.29</u> | <0.050 | 1.63 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | SD-SF | 6.96 | 1.47 | <u>121</u> | <0.500 | 1.32 | 0.447 | <0.050 | 0.46 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | NY-A | 9.28 | 1.13 | 146 | <0.500 | 4.3 | 0.191 | 0.096 | 1.23 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | UT-SLC | 7.44 | 1.34 | 144 | <0.500 | 0.832 | 0.406 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | UT-SLC | 7.06 | 1.50 | 183 | <0.500 | 0.904 | 0.619 | <0.050 | 1.21 | <0.0008 | <0.750 | <0.050 |
| Maximum | | 9.72 | 1.99 | >200 | 0.668 | 20.6 | 29.8 | 1.54 | 2650 | 0.0009 | ND | 0.154 |
| Minimum | | 3.32 | 0.813 | 85 | 0.668 | 0.089 | 0.089 | 0.055 | 0.451 | 0.0009 | ND | 0.068 |
| 90th UCL for | | | | <u>140</u> | ND | 1.55 | 0.699 | ND | 0.643 | ND | ND | ND |
| 50th Percentile | | 7.5 | | <u>140</u> | | | | | 1.7 | | | |

WASTE PARTS WASHER SLUDGE

Total # of Samples: 82

| | | I Volatiles Analysis (ppm) | | | | | | | | | TCLP Vol |
|--------------|--------|----------------------------|---------|----------|-------------|---------|-----------|------------|----------|-----------|-----------|
| Sample Codes | | D025 | D030 | D032 | D033 | D034 | D036 | D037 | D038 | D041 | D042 |
| Parameter | | cresol | 2,4-DNT | Cl6-benz | Cl6-1,3-but | Cl6-eth | nitrobenz | Cl6-phenol | pyridine | 2,4,5-TCP | 2,4,6-TCP |
| Reg Limit | | 200 | 0.13 | 0.13 | 0.5 | 3 | 2 | 100 | 5 | 400 | 2 |
| LAB | SITE | | | | | | | | | | |
| SK-1999 | SD-S | <0.228 | <0.067 | <0.11 | <0.11 | <0.10 | <0.097 | <0.24 | <0.29 | <0.10 | <0.15 |
| SK-1999 | TX-D | <0.080 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.20 | <0.050 | <0.40 | <0.40 |
| SK-1999 | TX-D | <460 | <130 | <220 | <230 | <200 | <190 | <470 | <590 | <200 | <300 |
| SK-1999 | UT-SLC | <2.28 | <0.67 | <1.1 | <1.1 | <1.00 | <0.97 | <2.4 | <2.9 | <1.0 | <1.5 |
| SK-1999 | UT-SLC | 6.03 | <0.759 | <0.697 | <1.05 | <0.964 | <1.19 | <1.82 | <3.69 | <1.46 | <1.76 |
| SK-2000 | CA-F | <100 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.54 | <0.50 | <0.50 |
| SK-2000 | CA-O | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| SK-2000 | CA-RP | <500 | <0.50 | <0.50 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 |
| SK-2000 | CA-SA | <1.0 | <0.1 | <0.1 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| SK-2000 | CO-E | <100 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.54 | <0.50 | <0.50 |
| SK-2000 | FL-B | <0.20 | <0.057 | <0.084 | <0.10 | <0.10 | <0.10 | <0.10 | <0.11 | <0.10 | <0.10 |
| SK-2000 | GA-C | <20.0 | <0.020 | <0.020 | <0.10 | <0.10 | <0.10 | <0.10 | <0.11 | <0.10 | <0.10 |
| SK-2000 | GA-GC | <27.4 | <0.820 | <0.820 | <4.10 | <4.10 | <4.10 | <4.10 | <4.31 | <4.10 | <4.10 |
| SK-2000 | GA-M | <100 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.54 | <0.50 | <0.50 |
| SK-2000 | GA-MO | <20.0 | <0.020 | <0.020 | <0.10 | <0.10 | <0.10 | <0.10 | <0.11 | <0.10 | <0.10 |
| SK-2000 | GA-N | <20.0 | <0.020 | <0.020 | <0.10 | <0.10 | <0.10 | <0.10 | <0.11 | <0.10 | <0.10 |
| SK-2000 | KS-DC | <100.0 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.54 | <0.50 | <0.50 |
| SK-2000 | KS-E | <01.15 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.54 | <0.50 | <0.50 |
| SK-2000 | KS-W | 0.137 | <0.020 | <0.020 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| SK-2000 | LA-P | <20 | <0.020 | <0.020 | <0.10 | <0.10 | <0.10 | <0.10 | <0.11 | <0.10 | <0.10 |
| SK-2000 | MO-SC | <20 | <0.020 | <0.020 | <0.10 | <0.10 | <0.10 | <0.10 | <0.11 | <0.10 | <0.10 |
| SK-2000 | NC-HP | <100 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| SK-2000 | NC-R | <100 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.54 | <0.50 | <0.50 |
| SK-2000 | NC-C | <100 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.58 | <0.50 | <0.50 |
| SK-2000 | ND-F | 1.123 | <0.020 | <0.020 | <0.10 | <0.10 | <0.10 | <0.10 | <0.11 | <0.10 | <0.10 |
| SK-2000 | NE-GI | <5.00 | <0.499 | <0.499 | <2.50 | <2.5 | <2.50 | <2.50 | <2.63 | <2.50 | <2.50 |
| SK-2000 | NE-GI | <0.20 | <0.020 | <0.020 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.11 | <0.10 |
| SK-2000 | NE-O | 72.6 | <7.22 | <7.22 | <36.1 | <36.1 | <36.1 | <36.1 | <38.8 | <36.1 | <36.1 |
| SK-2000 | NE-O | <400 | <40 | <40 | <200 | <200 | <200 | <200 | <210 | <200 | <200 |
| SK-2000 | NM-A | <0.20 | <0.020 | <0.020 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.11 | <0.10 |
| SK-2000 | NM-F | <20.0 | <0.020 | <0.020 | <0.10 | <0.10 | <0.10 | <0.10 | <0.11 | <0.10 | <0.10 |
| SK-2000 | NY-A | <20 | <0.020 | <0.020 | <0.10 | <0.10 | <0.10 | <0.10 | <0.11 | <0.10 | <0.10 |
| SK-2000 | NY-C | <109.0 | <1.30 | <1.30 | <6.49 | <6.49 | <6.49 | <6.49 | <6.82 | <6.49 | <6.49 |
| SK-2000 | NY-C | <20 | <0.020 | <0.020 | <0.10 | <0.10 | <0.10 | <0.10 | <0.11 | <0.10 | <0.10 |

WASTE PARTS WASHER SLUDGE

Total # of Samples: 82

atiles Analysis (ppm)

| Waste Codes | D01c | D019 | D021 | D022 | D027 | D028 | D029 | D035 | D039 | D040 | D043 | |
|-------------|---------|-------------|--------|--------|----------|---------|---------|--------|--------|---------------|--------------|--------|
| Parameter | benzene | CCl4 | Clbenz | CHCl3 | 1,4-DCIB | 1,2-DCA | 1,1-DCE | MEK | PCE | TCE | VChloride | |
| Reg. Limit | 0.5 | 0.5 | 100 | 6 | 7.5 | 0.5 | 0.7 | 200 | 0.7 | 0.5 | 0.2 | |
| LAB | SITE | | | | | | | | | | | |
| SK-1999 | CO-E | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | 0.65 | <0.20 | <0.14 | |
| SK-1999 | GA-C | <0.218 | <0.218 | <0.218 | <0.218 | 0.252 | <0.218 | <0.238 | <0.545 | <u>7.98</u> | 0.238 | <0.154 |
| SK-1999 | GA-GC | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | 0.21 | <0.20 | <0.14 |
| SK-1999 | GA-GC | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>174.41</u> | <2.0 | <1.4 |
| SK-1999 | GA-M | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | 0.68 | <0.20 | <0.14 |
| SK-1999 | GA-N | 0.232 | <0.218 | <0.218 | <0.218 | <0.248 | <0.218 | <0.238 | <0.545 | <u>7.25</u> | 0.249 | <0.154 |
| SK-1999 | KS-DC | <0.254 | <0.254 | <0.254 | <0.254 | <0.344 | <0.254 | <0.314 | <0.635 | <u>7.42</u> | <u>0.518</u> | <0.181 |
| SK-1999 | KS-W | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | 2.87 | <u>0.94</u> | <0.20 | <0.14 |
| SK-1999 | LA-K | <0.344 | <0.254 | <0.254 | <0.254 | <0.254 | <0.254 | <0.254 | <0.785 | <u>20.8</u> | <u>3.56</u> | <0.196 |
| SK-1999 | LA-P | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 | <0.14 |
| SK-1999 | MO-C | 0.278 | <0.254 | <0.254 | <0.254 | <0.344 | <0.254 | <0.314 | <0.635 | <u>161</u> | <u>1.26</u> | <0.181 |
| SK-1999 | MO-GA | <u>2.18</u> | <2.00 | <2.00 | <2.00 | <2.15 | <2.00 | <2.10 | <5.00 | <u>179</u> | <u>3.02</u> | <1.41 |
| SK-1999 | NC-A | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <u>1.74</u> | <1.0 | <1.4 |
| SK-1999 | NC-R | <0.308 | <0.308 | <0.308 | <0.308 | <0.488 | <0.308 | <0.428 | <0.770 | <u>63.9</u> | <u>3.93</u> | <0.222 |
| SK-1999 | ND-F | <0.296 | <0.176 | <0.176 | <0.176 | <0.176 | <0.176 | <0.176 | <0.880 | <u>27.1</u> | 0.411 | <0.214 |
| SK-1999 | ND-F | <0.218 | <0.218 | <0.218 | <0.218 | <0.218 | <0.218 | <0.218 | <0.545 | 13.7 | 0.443 | <0.154 |
| SK-1999 | NE-GI | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | 0.63 | <0.20 | <0.14 |
| SK-1999 | NE-O | <0.272 | <0.272 | <0.272 | <0.272 | <0.392 | <0.272 | <0.352 | 0.987 | <u>139</u> | <u>11.8</u> | <0.194 |
| SK-1999 | NM-F | 0.496 | <0.236 | <0.236 | <0.236 | <0.296 | <0.236 | <0.276 | <0.590 | <u>20.8</u> | <0.236 | <0.167 |
| SK-1999 | NY-A | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 | <0.14 |
| SK-1999 | NY-A | <0.236 | <0.236 | <0.236 | <0.236 | <0.296 | <0.236 | <0.276 | <0.590 | <u>11.7</u> | <u>1.03</u> | <0.167 |
| SK-1999 | NY-A | 0.272 | <0.272 | <0.272 | <0.272 | <0.392 | <0.272 | <0.352 | <0.680 | <u>60.9</u> | <u>3.62</u> | <0.194 |
| SK-1999 | NY-C | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>0.73</u> | <0.20 | <0.14 |
| SK-1999 | NY-C | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | 0.25 | <0.20 | <0.14 |
| SK-1999 | NY-L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | 0.23 | <0.20 | <0.14 |
| SK-1999 | NY-L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>26.23</u> | <2.0 | <1.4 |
| SK-1999 | NY-NA | <u>2.82</u> | <2.00 | <2.00 | <2.00 | <2.27 | <2.00 | <2.18 | <5.00 | <u>2.73</u> | <u>2.1</u> | <1.41 |
| SK-1999 | NY-NA | <u>2.31</u> | <2.00 | <2.00 | <2.00 | <2.12 | <2.00 | <2.08 | <5.00 | <u>129</u> | <2.00 | <1.40 |
| SK-1999 | NY-S | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>1.65</u> | <0.20 | <0.14 |
| SK-1999 | NY-S | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>0.76</u> | <0.20 | <0.14 |
| SK-1999 | NY-S | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>4.84</u> | <0.20 | <0.14 |
| SK-1999 | OR-C | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>5.65</u> | <u>25.36</u> | <1.4 |
| SK-1999 | SC-G | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.5 | <u>18.4</u> | <1.0 | <0.70 |
| SK-1999 | SD-S | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>1.5</u> | <0.20 | <0.14 |

WASTE PARTS WASHER SLUDGE

Total # of Samples: 82

atiles Analysis (ppm)

| Lab Code | D018 | D019 | D021 | D022 | D027 | D028 | D029 | D035 | D039 | D040 | D043 | |
|-----------|---------|-------|--------|-------|----------|---------|---------|-------|-------|--------------|--------------|-------|
| Parameter | benzene | CCl4 | Clbenz | CHCl3 | 1,4-DCIB | 1,2-DCA | 1,1-DCE | MEK | PCE | TCE | VChloride | |
| Reg Limit | 0.5 | 0.5 | 100 | 6 | 7.5 | 0.5 | 0.7 | 200 | 0.7 | 0.5 | 0.2 | |
| LAB | SITE | | | | | | | | | | | |
| SK-2000 | NY-C | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | 0.309 | <0.20 | <0.14 |
| SK-2000 | NY-C | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | 0.215 | <0.20 | <0.14 |
| SK-2000 | NY-L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | 0.244 | <0.20 | <0.14 |
| SK-2000 | NY-L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 | <0.14 |
| SK-2000 | NY-L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | 0.269 | <0.20 | <0.14 |
| SK-2000 | NY-NA | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 | <0.14 |
| SK-2000 | NY-S | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>2.955</u> | <u>1.486</u> | <0.14 |
| SK-2000 | NY-S | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>2.363</u> | <0.20 | <0.14 |
| SK-2000 | SC-G | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 | <0.14 |
| SK-2000 | SD-SF | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>0.705</u> | <0.20 | <0.14 |
| SK-2000 | SD-SF | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>4.496</u> | <u>0.514</u> | <0.14 |
| SK-2000 | NY-A | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 | <0.14 |
| SK-2000 | UT-SLC | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | 0.387 | <0.20 | <0.14 |
| SK-2000 | UT-SLC | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>0.827</u> | <0.20 | <0.14 |
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WASTE PARTS WASHER TANK BOTTOMS

Total # of Samples: 66

Physical Properties

TCLP Metals Analysis (ppm)

| LAB SITE | | DO2 | pH | SG | PP | As | Cd | Cr | Pb | Ag | Se | |
|------------|--------|-----------|------|------------|--------|--------|-------------|-------------|-------------|---------|--------|--------|
| Parameter | | | | | | | | | | | | |
| Reg. Limit | | <2, >12.5 | | NA | 5 | 100 | 1 | 5 | 5 | 0.2 | 1 | 5 |
| SK-1998 | IL-E | 8.22 | 1.29 | >200 | <0.500 | 0.955 | <u>1.46</u> | <0.050 | 1.14 | <0.0008 | <0.750 | <0.050 |
| SK-1998 | LA-K | 7.98 | 1.24 | <u>128</u> | <0.500 | 1.04 | 0.725 | <0.050 | <u>25.6</u> | <0.0008 | <0.750 | <0.050 |
| SK-1998 | MD-GB | 8.25 | 1.40 | >200 | <0.500 | 3.17 | 0.765 | <0.050 | 1.03 | <0.0008 | <.750 | <0.050 |
| SK-1998 | MD-GB | 8.41 | 1.37 | >200 | <0.500 | 2.96 | 0.718 | <0.050 | 0.996 | <0.0008 | <.750 | <0.050 |
| SK-1998 | MO-CG | 8.14 | 1.21 | >200 | <0.500 | 0.962 | 0.678 | <0.050 | 0.793 | <0.0008 | <0.750 | <0.050 |
| SK-1998 | MO-CG | 8.28 | 1.21 | >200 | <0.500 | 0.832 | 0.519 | <0.050 | 0.534 | <0.0008 | <0.750 | <0.050 |
| SK-1998 | NC-C | 9.22 | 1.06 | >200 | <0.500 | 2.03 | <u>1.02</u> | 0.051 | 1.56 | <0.0008 | <0.750 | <0.050 |
| SK-1998 | NE-GI | 7.23 | 1.38 | <u>83</u> | <0.500 | 1.8 | <0.050 | 0.126 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1998 | NE-GI | 8.17 | 1.3 | >200 | <0.500 | 1.13 | <0.050 | 0.107 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1998 | NY-A | 8.58 | 1.48 | >200 | <0.500 | 1.83 | 0.576 | <0.050 | 2.16 | <0.0008 | <0.750 | <0.050 |
| SK-1998 | NY-NA | 8.56 | 1.42 | 149 | <0.500 | 2.9 | 0.959 | 0.08 | 4.23 | 0.00904 | <0.750 | <0.050 |
| SK-1998 | NY-S | 9.41 | 1.26 | <u>124</u> | <0.500 | 2.94 | 0.57 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-1998 | NY-S | 7.16 | 0.99 | >200 | <5.00 | <0.500 | <0.500 | <0.500 | <4.00 | <0.040 | <0.45 | <0.500 |
| SK-1998 | SD-S | 7.42 | 1.07 | >200 | <0.500 | 1.51 | <u>1.31</u> | <0.050 | 1.03 | <0.0008 | <0.750 | <0.050 |
| SK-1998 | TX-E | 7.67 | 1.11 | 145 | <0.500 | 0.901 | 0.089 | <0.050 | 0.851 | <0.008 | <0.750 | <0.050 |
| SK-1998 | VA-C | 7.81 | 1.39 | 144 | <0.500 | 1.67 | 0.518 | 0.054 | 1.1 | <0.0008 | <0.750 | <0.050 |
| SK-1998 | VA-C | 7.71 | 1.26 | <u>96</u> | <0.500 | 1.08 | 0.224 | <0.050 | 0.739 | <0.0008 | <0.750 | <0.050 |
| SK-1998 | WI-M | 7.68 | 1.20 | >200 | <0.500 | 0.946 | 0.537 | 0.051 | 2.16 | <0.0008 | <0.750 | <0.050 |
| SK-1998 | WI-M | 7.32 | 1.30 | >200 | <0.500 | 0.907 | 0.594 | <0.050 | 1.56 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | GA-C | 5.45 | 1.02 | >200 | <0.815 | 1.64 | 0.401 | 0.162 | <u>52.2</u> | <0.008 | <0.729 | <0.082 |
| SK-1999 | GA-M | 6.59 | 1.03 | >200 | <0.500 | 2.21 | 0.189 | <0.050 | 0.443 | <0.0008 | <0.750 | <0.050 |
| SK-1999 | ND-B | 8.53 | 1.06 | 170 | <0.500 | 0.937 | <u>1.01</u> | <0.050 | 0.781 | 0.0009 | <0.750 | <0.050 |
| SK-1999 | NY-A | 8.27 | 0.94 | >200 | <0.500 | 6.06 | 0.417 | <0.050 | 1.24 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | GA-C | 6.83 | 1.02 | 155 | <5.00 | 52.5 | <u>2.39</u> | <u>6.83</u> | <u>474</u> | <0.040 | <0.008 | <0.500 |
| SK-2000 | GA-C | 5.48 | 0.83 | 152 | <5.00 | 2.79 | <0.500 | 0.764 | <u>49.1</u> | <0.040 | <0.008 | <0.500 |
| SK-2000 | GA-C | 5.48 | 0.83 | 152 | <5.00 | 2.79 | <0.500 | 0.764 | <u>49.1</u> | <0.040 | <0.008 | <0.500 |
| SK-2000 | GA-C | 6.83 | 1.02 | 155 | <5.00 | 52.5 | <u>2.39</u> | <u>6.83</u> | <u>474</u> | <0.040 | <0.008 | <0.500 |
| SK-2000 | GA-GC | 6.02 | 1.34 | 155 | <0.590 | 0.576 | 0.119 | <0.059 | <0.472 | <0.002 | <0.735 | <0.059 |
| SK-2000 | NE-GI | 7.3 | 1.41 | <u>135</u> | <0.500 | 1.71 | <0.050 | <0.050 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | NE-GI | 7.06 | 1.49 | 144 | <0.500 | 1.06 | <0.050 | 0.109 | <0.400 | <0.0008 | <0.750 | <0.050 |
| SK-2000 | UT-SLC | 8.39 | 1.18 | 154 | <0.500 | 1.62 | 0.501 | 0.086 | 1.18 | 0.004 | <0.750 | <0.050 |
| SK-2000 | TX-D | 7.02 | 0.86 | >200 | <5.00 | 53.4 | <u>5.58</u> | <u>8.5</u> | <u>82.7</u> | <0.10 | <0.45 | <0.500 |
| Maximum | | 9.41 | 1.67 | 200 | 0.55 | 53.40 | 11.90 | 8.50 | 474.00 | 0.01 | ND | ND |

WASTE PARTS WASHER TANK BOTTOMS

Total # of Samples: 66

TCLP Semi Volatiles Analysis (ppm)

| Waste Codes | | D026 | D030 | D032 | D033 | D034 | D036 | D037 | D038 | D041 | D042 |
|-------------|-------|--------|---------|----------|-------------|---------|-----------|------------|----------|-----------|-----------|
| Parameter | | cresol | 2,4-DNT | Cl6-benz | Cl8-1,3-but | Cl6-eth | nitrobenz | Cl5-phenol | pyridine | 2,4,5-TCP | 2,4,6-TCP |
| Reg. Limit | | 200 | 0.13 | 0.13 | 0.5 | 3 | 2 | 100 | 5 | 400 | 2 |
| LAB | SITE | | | | | | | | | | |
| SK-1997 | CA-E | 2.84 | <0.900 | <1.00 | <1.45 | <1.45 | <1.15 | <1.55 | <1.80 | <0.950 | <0.900 |
| SK-1997 | CA-S | <0.090 | <0.090 | <0.100 | <0.145 | <0.145 | <0.115 | <0.155 | <0.180 | <0.095 | <0.090 |
| SK-1997 | CO-E | <0.900 | <0.900 | <1.00 | <1.45 | <1.45 | <1.15 | <1.55 | <1.80 | <0.950 | <0.900 |
| SK-1997 | IL-E | <1.750 | <0.900 | <1.00 | <1.45 | <1.45 | <1.15 | <1.55 | <1.80 | <0.950 | <0.900 |
| SK-1997 | LA-K | <6.27 | <6.27 | <6.97 | <10.1 | <10.1 | <8.02 | <10.8 | <12.5 | <6.62 | <6.27 |
| SK-1997 | MO-C | 3 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1997 | ND-B | <0.090 | <0.090 | <0.100 | <0.145 | <0.145 | <0.115 | <0.155 | <0.180 | <0.095 | <0.090 |
| SK-1997 | ND-F | <1.750 | <0.900 | <1.00 | <1.45 | <1.45 | <1.15 | <1.55 | <1.80 | <0.950 | <0.900 |
| SK-1997 | NE-GE | 1.976 | <0.075 | <0.080 | <105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1997 | NE-GI | 0.957 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1997 | NE-O | <0.090 | <0.090 | <0.100 | <0.145 | <0.145 | <0.115 | <0.155 | <0.180 | <0.095 | <0.090 |
| SK-1997 | NM-A | <1.750 | <0.900 | <1.00 | <1.45 | <1.45 | <1.15 | <1.55 | <1.80 | <0.950 | <0.900 |
| SK-1997 | NY-A | 2.835 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1997 | NY-A | 0.999 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1997 | NY-NA | 2.86 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1997 | OR-C | 0.76 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1997 | SD-S | 1.62 | <0.090 | <0.100 | <0.145 | <0.145 | <0.115 | <0.155 | <0.180 | <0.095 | <0.090 |
| SK-1997 | TN-K | <0.090 | <0.090 | <0.100 | <0.145 | <0.145 | <0.115 | <0.155 | <0.180 | <0.095 | <0.090 |
| SK-1997 | TN-N | 0.949 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1997 | TX-M | 1.285 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1997 | TX-M | 0.462 | <0.090 | <0.100 | <0.145 | <0.145 | <0.115 | <0.155 | <0.180 | <0.095 | <0.090 |
| SK-1998 | AZ-C | 0.28 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | AZ-C | 1.265 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | CA-S | <510 | <150 | <160 | <210 | <200 | <190 | <560 | <660 | <230 | <390 |
| SK-1998 | FL-BB | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | FL-PC | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | FL-PC | 154.8 | <45.5 | <48.6 | <63.7 | <60.7 | <57.7 | <170 | <200 | <69.8 | <118 |
| SK-1998 | GA-C | 0.297 | <0.075 | <0.080 | | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | GA-C | 0.753 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | GA-M | <0.255 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | GA-M | 1.628 | <0.075 | <0.080 | <0.105 | <0.100 | <0.095 | <0.280 | <0.330 | <0.115 | <0.195 |
| SK-1998 | GA-MA | <2.55 | <0.750 | <0.800 | <1.05 | <1.00 | <0.950 | <2.80 | <3.30 | <1.15 | <1.95 |
| SK-1998 | IL-E | <2.255 | <0.665 | <1.11 | <1.13 | <0.995 | <0.965 | <2.36 | <2.94 | <1.00 | <1.48 |
| SK-1998 | IL-E | <0.345 | <0.025 | <0.100 | <0.100 | <0.075 | <0.250 | <0.475 | <0.150 | <0.125 | <0.075 |

WASTE PARTS WASHER TANK BOTTOMS

Total # of Samples: 66

TCLP Semi-Volatiles Analysis (ppm)

| Waste Codes: | D026 | D030 | D032 | D033 | D034 | D036 | D037 | D038 | D041 | D042 |
|-----------------|--------|---------|----------|-------------|---------|-----------|------------|----------|-----------|-----------|
| Parameter: | cresol | 2,4-DNT | Cl6-benz | Cl6-1,3-but | Cl6-eth | nitrobenz | Cl5-phenol | pyridine | 2,4,5-TCP | 2,4,6-TCP |
| Reg Limit: | 200 | 0.13 | 0.13 | 0.5 | 3 | 2 | 100 | 5 | 400 | 2 |
| LAB | SITE | | | | | | | | | |
| Minimum | | 0.28 | ND | ND | ND | ND | ND | ND | ND | ND |
| 90th UCL for | | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 50th Percentile | | | | | | | | | | |

WASTE PARTS WASHER TANK BOTTOMS

Total # of Samples: 66

| | | TCLP Volatiles Analysis (ppm) | | | | | | | | | | |
|-------------|--------|-------------------------------|--------|--------|-----------|----------|---------|---------|--------|---------------|--------------|-----------|
| Waste Codes | | D018 | D019 | D021 | D022 | D027 | D028 | D029 | D035 | D039 | D040 | D043 |
| Parameter | | benzene | CCl4 | Clbenz | CHCl3 | 1,4-DCIB | 1,2-DCA | 1,1-DCE | MEK | PCE | TCE | VChloride |
| Reg Limit | | 0.5 | 0.5 | 100 | 6 | 7.5 | 0.5 | 0.7 | 200 | 0.7 | 0.5 | 0.2 |
| LAB | SITE | | | | | | | | | | | |
| SK-1998 | IL-E | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | 1.11 | 0.49 | 0.18 | <0.140 |
| SK-1998 | LA-K | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | 2.85 | 0.2 | 0.11 | <0.140 |
| SK-1998 | MD-GB | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.500 | <u>1.13</u> | <0.100 | <0.140 |
| SK-1998 | MD-GB | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.500 | 0.350 | <0.100 | <0.140 |
| SK-1998 | MO-CG | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | 5.2 | <u>9.44</u> | <u>1.23</u> | <1.40 |
| SK-1998 | MO-CG | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.500 | 0.47 | <0.100 | <0.140 |
| SK-1998 | NC-C | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | 1.24 | <u>1.09</u> | 0.110 | <0.140 |
| SK-1998 | NE-GI | <0.100 | <0.100 | <0.100 | 0.33 | <0.100 | <0.100 | <0.100 | <0.500 | 0.47 | <0.100 | <0.140 |
| SK-1998 | NE-GI | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.500 | 0.32 | <0.100 | <0.140 |
| SK-1998 | NY-A | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.500 | <u>0.79</u> | <0.100 | <0.140 |
| SK-1998 | NY-NA | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | 9.88 | <u>1.58</u> | <0.100 | <0.140 |
| SK-1998 | NY-S | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <5.00 | <u>45.6</u> | <u>1.63</u> | <1.40 |
| SK-1998 | NY-S | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <5.0 | <u>65.240</u> | <1.0 | <1.4 |
| SK-1998 | SD-S | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <5.00 | <u>11.2</u> | <1.00 | <1.40 |
| SK-1998 | TX-E | <1.00 | <1.00 | <1.00 | <u>12</u> | <1.00 | <1.00 | <1.00 | <5.00 | <u>3.05</u> | <1.00 | <1.40 |
| SK-1998 | VA-C | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.500 | 0.58 | <0.100 | <0.140 |
| SK-1998 | VA-C | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.500 | 0.490 | <0.100 | <0.140 |
| SK-1998 | WI-M | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.500 | <u>0.81</u> | <0.100 | <0.140 |
| SK-1998 | WI-M | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.500 | 0.25 | <0.100 | <0.140 |
| SK-1999 | GA-C | 0.365 | <0.290 | <0.290 | <0.290 | <0.440 | <0.290 | <0.390 | 0.839 | <u>26.8</u> | <u>1.73</u> | <0.208 |
| SK-1999 | GA-M | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <u>3.73</u> | 0.27 | <0.14 |
| SK-1999 | ND-B | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <u>7.7</u> | <2.0 | <1.4 |
| SK-1999 | NY-A | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | 0.48 | 0.33 | <0.14 |
| SK-2000 | GA-C | <20 | <20 | <20 | <20 | <50 | <20 | <40 | <50 | <u>1030</u> | <u>70.4</u> | <15 |
| SK-2000 | GA-C | <20 | <20 | <20 | <20 | <50 | <20 | <40 | <50 | <u>1080</u> | <u>65.4</u> | <15 |
| SK-2000 | GA-C | <20 | <20 | <20 | <20 | <50 | <20 | <40 | <50 | <u>1080</u> | <u>65.4</u> | <15 |
| SK-2000 | GA-C | <20 | <20 | <20 | <20 | <50 | <20 | <40 | <50 | <u>1030</u> | <u>70.4</u> | <15 |
| SK-2000 | GA-GC | 0.238 | <0.200 | <0.200 | <0.200 | 0.215 | <0.200 | <0.204 | 0.518 | <u>13.4</u> | <u>0.792</u> | <0.14 |
| SK-2000 | NE-GI | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.649 | <0.20 | <0.14 |
| SK-2000 | NE-GI | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.20 | 0.201 | <0.10 | <0.10 |
| SK-2000 | UT-SLC | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | 6.608 | <u>1.571</u> | 0.245 | <0.14 |
| SK-2000 | TX-D | <2.0 | <2.0 | <2.0 | <2.0 | <5.0 | <2.0 | <4.0 | <5.0 | <2.0 | <2.0 | <1.5 |
| Maximum | | 3.90 | ND | 0.10 | 12.00 | 2.14 | 1.84 | ND | 61.90 | 1930.00 | 75.00 | ND |

2001 ANNUAL RECHARACTERIZATION CODE LIST

Physical Properties

| | |
|----|------------------|
| pH | pH |
| SG | Specific Gravity |
| FP | Flash Point |

Metals

| | |
|----|----------|
| As | Arsenic |
| Ba | Barium |
| Cd | Cadmium |
| Cr | Chromium |
| Pb | Lead |
| Hg | Mercury |
| Se | Selenium |
| Ag | Silver |

Semi- Volatiles

| | |
|------------|--------------------------|
| Cresol | 2,3 & 4 Methylphenol |
| 2,4DNT | 2,4 Dinitrotoluene |
| Cl6-benz | Hexachlorobenzene |
| C16-1,3But | Hexachloro 1,3 Butadiene |
| C16-eth | Hexachloroethane |
| Nitrobenz | Nitrobenzene |
| C15-phen | pentachlorophenol |
| pyridine | Pyridine |
| 2,4,5 TCP | 2,4,5 Trichlorophenol |
| 2,4,6,TCP | 2,4,6 Trichlorophenol |

Volatiles

| | |
|-----------|----------------------|
| benzene | Benzene |
| CCl4 | Carbon Tetrachloride |
| Clbenz | Chlorobenzene |
| CHCl3 | Chloroform |
| 1,4-DCIB | 1,4 Dichlorobenzene |
| 1,2DCA | 1,2 Dichloroethane |
| 1,1-DCE | 1,1 Dichloroethylene |
| MEK | Methyl Ethyl Ketone |
| PCE | Perchloroethylene |
| TCE | Trichloroethylene |
| Vchloride | Vinyl Chloride |

2001 ANNUAL WASTE STREAM RECHARACTERIZATION

SAMPLING SITE CODES

MO-C Columbia, MO

WA-L Lyrinwood, WA
WA-S Spokane, WA
WI-M Madison, WI
WV-P Poca, WV

ATTACHMENT A-1
ANNUAL RE-CHARACTERIZATION DATA

July 27, 2001

Albuquerque, NM

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2003 ANNUAL RECHARACTERIZATION WASTE CODES

~~National Waste Code Assignment~~

| WASTE STREAMS | WASTE CODE CHANGES - NATIONAL | | | Utah | Minnesota | Texas | | California |
|---|---|--|---|--------------------------------------|-----------------------------|----------------------------|---------------------------------|---------------------------|
| General Description | 2002 Federal Waste Codes (From 2001 Data) | 2003 Federal Waste Codes (From 2002 Data) | Changes from 2002 to 2003 | UT 2003 FWC | MN 2003 FWC | TX Waste Code (Instate) | TX Waste Code (out of state) | 2003 CA Waste Codes |
| Aqueous Brake Cleaner | D039 | D039 | No Change | Nat'l | Nat'l | 0839102H | OUTS102H | 134 |
| Branch Contaminated Debris | F001, F002, F003, F005, D001, D006, D007, D008, D011, D018, D022, D027, D028, D035, D039, D040 | F001, F002, F003, F005, D001, D006, D007, D008, D011, D018, D022, D027, D028, D035, D036, D038, D039, D040 | Add D036 (nitrobenzene), D038 (pyridine) | Nat'l | Nat'l | 1827409H 1736319H | OUTS409H OUTS319H | 741 (L) 751 (S) |
| Immersion Cleaner (IC 699) | D006, D008, D018, D027, D039, D040 | D006, D008, D018, D027, D038, D039, D040 | Add D038 (pyridine) | Nat'l + D007 | Nat'l | 0566203H | OUTS203H | 741 |
| Parts Washer Solvent 105 Recycled | D001, D018, D039, D040 | D001, D018, D039, D040 | No Change | Nat'l + D008 | Nat'l + D008 | 0501203H | OUTS203H | 741 |
| Parts Washer Solvents (Bulked) / Combination of 105 and 150 (Aqueous, where applicable) | D001, D018, D039, D040 | D001, D018, D039, D040 | No Change | Nat'l | Nat'l + D008 | 0501203H | OUTS203H | 741 |
| Parts Washer Solvent Sludge/Dumpster Mud | D001, D039 | D001, D039 | No Change | Nat'l + D006, D008, D018, D040 | Nat'l | 0527695H | OUTS695H | 741 |
| Parts Washer Solvent Tank Bottoms (bulk) ¹ | D039 | D039, D040 | Add D040 (Trichloroethylene) | Nat'l | Nat'l | 0527695H | OUTS695H | 741 |
| Parts Washer Solvent 150 | D039 | D039 | No Change | Nat'l | Nat'l + D008, D018, D040 | 0501203H | OUTS203H | 213 |
| Paint Gun Cleaner (SK) | F005, F003, D001, D018, D035, D039, D040 | F003, F005, D001, D018, D035, D038, D039, D040 | Add D038 (pyridine) | Nat'l + D007, D008 | Nat'l | 0523211H | OUTS211H | 212 |
| Paint Waste Other | F005, F003, D001, D018, D035, D039, D040 | F003, F005, D001, D018, D035, D036, D038, D039, D040 | Add D036 (nitrobenzene), D038 (pyridine) | Nat'l + D005, D007, D008 | Nat'l | 0523211H | OUTS211H | 212 |
| Dry Cleaner (Perc) Bottoms | F002, D007, D039, D040 | F002, D007, D039, D040 | No Change | Nat'l | Nat'l | 0506609H | OUTS609H | 741 |
| Dry Cleaner (Perc) Filter Powder | F002, D039 | F002, D039 | No Change | Nat'l | Nat'l | 0906310H | OUTS310H | 751 |
| Dry Cleaning Naphtha (Mineral Spirits) | D001, D039 | D001, D039 | No Change | Nat'l | Nat'l | 0569609H | OUTS609H | 741 |

Aqueous Brake Cleaner

| Sample Number: | | | | | 2014670 | C2J300280001 | C2J300280001X | 2054681 | 2058150 | 2058153 | 2095616 | C2J110184001 |
|-----------------------|-------------------|--|------------|-----------|-----------------|-----------------|-----------------|----------|----------|----------|----------|--------------|
| Year | | | | | 2000 | 2002 | 2002 | 2000 | 2000 | 2000 | 2001 | 2002 |
| Analysis | Number of Samples | 90 UCL for the 50 th Percentile | Waste Code | Reg Limit | Albuquerque, NM | Albuquerque, NM | Albuquerque, NM | Avon, NY | Avon, NY | Avon, NY | Avon, NY | Avon, NY |
| BNA | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | 68 | ND | D041 | 400 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <0.50 | <5.0 | <5.0 |
| 2,4,6-Trichlorophenol | 68 | ND | D042 | 2 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.50 | <2.0 | <2.0 |
| 2,4-Dinitrotoluene | 68 | ND | D030 | 0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.10 | <0.13 | <0.13 |
| 2-Methylphenol | 68 | ND | D023 | 200 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <50 | <5.0 | <5.0 |
| 3+4-Methylphenol | 69 | ND | D024/25 | 200 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <50 | <5.0 | <5.0 |
| Hexachlorobenzene | 68 | ND | D032 | 0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.10 | <0.13 | <0.13 |
| Hexachlorobutadiene | 68 | ND | D033 | 0.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| Hexachloroethane | 68 | ND | D034 | 3 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Nitrobenzene | 68 | ND | D036 | 2 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.50 | <0.40 | <0.40 |
| Pentachlorophenol | 68 | ND | D037 | 100 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <0.50 | <5.0 | <5.0 |
| Pyridine | 68 | ND | D038 | 5 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.54 | <1.0 | <1.0 |
| METALS | | | | | | | | | | | | |
| Arsenic | 68 | ND | D004 | 5 | <5.00 | <5.00 | <5.00 | <5.00 | <5.00 | <5.00 | <5.00 | <5.00 |
| Barium | 68 | 3.2 | D005 | 100 | 2.33 | 0.926 | 12.7 | 1.79 | <0.500 | 6.04 | 1.63 | 0.528 |
| Cadmium | 68 | ND | D006 | 1 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 |
| Chromium | 68 | ND | D007 | 5 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 |
| Lead | 68 | ND | D008 | 5 | <4.00 | <4.00 | <4.00 | <4.00 | <4.00 | <4.00 | <4.00 | <4.00 |
| Mercury | 68 | ND | D009 | 0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.100 | <0.10 | <0.10 |
| Selenium | 68 | ND | D010 | 1 | <0.45 | <0.45 | <0.45 | <0.45 | <0.45 | <0.45 | <1.00 | <0.45 |
| Silver | 68 | ND | D011 | 5 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 |
| Misc | | | | | | | | | | | | |
| Flash Point | 65 | >200 | D001 | 140 | >200 | >200 | 69 | >200 | >200 | >200 | >200 | >200 |
| pH | 73 | 9.93 | D002 | 2-12.5 | 10.6 | 10.12 | 8.6 | 9.2 | 8.32 | 11.3 | 9.42 | 9.93 |
| VOA | | | | | | | | | | | | |
| 1,1-Dichloroethylene | 68 | ND | D029 | 0.7 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <2.0 |
| 1,2-Dichloroethane | 68 | ND | D028 | 0.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <2.0 |
| 1,4-Dichlorobenzene | 68 | ND | D027 | 7.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <2.0 |
| Benzene | 68 | ND | D018 | 0.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <2.0 |
| Carbon Tetrachloride | 68 | ND | D019 | 0.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <2.0 |
| Chlorobenzene | 68 | ND | D021 | 100 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <2.0 |
| Chloroform | 68 | ND | D022 | 6 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <2.0 |
| Methyl Ethyl Ketone | 68 | ND | D035 | 200 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <5.0 | <0.50 | <5.0 |
| Tetrachloroethylene | 68 | 13.81 | D039 | 0.7 | <0.20 | 1.43 | 1.776 | 2.743 | <0.20 | 93.85 | 9.002 | 34.82 |
| Trichloroethylene | 68 | 0.2 | D040 | 0.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <2.0 |
| Vinyl Chloride | 68 | ND | D043 | 0.2 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <1.4 | <0.14 | <1.4 |

Aqueous Brake Cleaner

| | | | | | Sample Number | | | | | | | | |
|-----------------------|-------------------|--|------------|-----------|---------------|---------------|------------|------------|------------|------------|--------------|--------------|------|
| | | | | | C2I25035200 | C2J010167001 | 2027938 | 2094166 | 2094170 | 2094177 | C2K200260001 | 2050730 | |
| Year | | | | | 2002 | 2002 | 2000 | 2001 | 2001 | 2001 | 2001 | 2002 | 2000 |
| | Number of Samples | 90 UCL for the 50 th Percentile | Waste Code | Reg Limit | Boise, ID | Clackamas, OR | Cohoes, NY | Cohoes, NY | Cohoes, NY | Cohoes, NY | Cohoes, NY | Columbus, GA | |
| BNA | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | 68 | ND | D041 | 400 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | |
| 2,4,6-Trichlorophenol | 68 | ND | D042 | 2 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | |
| 2,4-Dinitrotoluene | 68 | ND | D030 | 0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | |
| 2-Methylphenol | 68 | ND | D023 | 200 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | |
| 3+4-Methylphenol | 69 | ND | D024/25 | 200 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | |
| Hexachlorobenzene | 68 | ND | D032 | 0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | |
| Hexachlorobutadiene | 68 | ND | D033 | 0.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | |
| Hexachloroethane | 68 | ND | D034 | 3 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | |
| Nitrobenzene | 68 | ND | D036 | 2 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | |
| Pentachlorophenol | 68 | ND | D037 | 100 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | |
| Pyridine | 68 | ND | D038 | 5 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | |
| METALS | | | | | | | | | | | | | |
| Arsenic | 68 | ND | D004 | 5 | <5.00 | <5.00 | <5.00 | <5.00 | <5.00 | <5.00 | <5.00 | <5.00 | |
| Barium | 68 | 3.2 | D005 | 100 | 1.06 | 0.854 | 2.1 | 1.78 | 2.02 | 1.17 | <0.500 | 5.54 | |
| Cadmium | 68 | ND | D006 | 1 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | |
| Chromium | 68 | ND | D007 | 5 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | |
| Lead | 68 | ND | D008 | 5 | <4.00 | <4.00 | <4.00 | <4.00 | <4.00 | <4.00 | <4.00 | <4.00 | |
| Mercury | 68 | ND | D009 | 0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | |
| Selenium | 68 | ND | D010 | 1 | <0.45 | <0.45 | <0.45 | <0.45 | <0.45 | <0.45 | <0.45 | <0.45 | |
| Silver | 68 | ND | D011 | 5 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | |
| Misc | | | | | | | | | | | | | |
| Flash Point | 65 | >200 | D001 | 140 | >200 | >200 | >200 | >200 | >200 | >200 | >200 | >200 | |
| pH | 73 | 9.93 | D002 | 2-12.5 | 10.25 | 9.86 | 7.42 | 9.66 | 9.47 | 7.9 | 11.03 | 11.81 | |
| VOA | | | | | | | | | | | | | |
| 1,1-Dichloroethylene | 68 | ND | D029 | 0.7 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <0.20 | <0.20 | <2.0 | |
| 1,2-Dichloroethane | 68 | ND | D028 | 0.5 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <0.20 | <0.20 | <2.0 | |
| 1,4-Dichlorobenzene | 68 | ND | D027 | 7.5 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <0.20 | <0.20 | <2.0 | |
| Benzene | 68 | ND | D018 | 0.5 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <0.20 | <0.20 | <2.0 | |
| Carbon Tetrachloride | 68 | ND | D019 | 0.5 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <0.20 | <0.20 | <2.0 | |
| Chlorobenzene | 68 | ND | D021 | 100 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <0.20 | <0.20 | <2.0 | |
| Chloroform | 68 | ND | D022 | 6 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <0.20 | <0.20 | <2.0 | |
| Methyl Ethyl Ketone | 68 | ND | D035 | 200 | <0.50 | <0.50 | <0.50 | <5.0 | <0.50 | <0.50 | <0.50 | <5.0 | |
| Tetrachloroethylene | 68 | 13.81 | D039 | 0.7 | 0.618 | 2.145 | 0.686 | 1615 | 2.104 | 2.889 | 25.76 | 131.2 | |
| Trichloroethylene | 68 | 0.2 | D040 | 0.5 | <0.20 | <0.20 | <0.20 | 2.814 | 0.781 | 0.2 | <0.20 | <2.0 | |
| Vinyl Chloride | 68 | ND | D043 | 0.2 | <0.14 | <0.14 | <0.14 | <1.4 | <0.14 | <0.14 | <0.14 | <1.4 | |

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**RESOURCE CONSERVATION AND RECOVERY ACT
OPERATING PERMIT
EPA ID NO. NMD980698849**

Issued to

SAFETY KLEEN SYSTEMS, INC.

For the

SERVICE CENTER

Located in

FARMINGTON, SAN JUAN COUNTY, NEW MEXICO

Issued by

**NEW MEXICO ENVIRONMENT DEPARTMENT
HAZARDOUS WASTE BUREAU
HAROLD RUNNELS BUILDING
1190 ST. FRANCIS DRIVE
P.O. BOX 26110
SANTA FE, NM 87502-6110**

SEPTEMBER 2003

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SEPTEMBER 2003

New Mexico Environment Department
September 2003

Safety-Kleen Systems, Inc. Farmington, NM, Service Center
Facility Operating Permit
RCRA Permit No. NMD980698849

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ATTACHMENTS

- 1 DESCRIPTION AND DESIGN AND OPERATION OF THE FACILITY
- 2 AUTHORIZED WASTES AND PART A APPLICATION
- 3 WASTE ANALYSIS PLAN
- 4 SECURITY PLAN
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- 6 PREPAREDNESS AND PREVENTION
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- 8 MANIFESTING, REPORTING AND RECORD KEEPING
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- 11 CORRECTIVE ACTION UNITS
- 12 FINANCIAL ASSURANCE AND CLOSURE COST ESTIMATES

New Mexico Environment Department
September 2003

Safety-Kleen Systems, Inc. Farmington, NM, Service Center
Facility Operating Permit
RCRA Permit No. NMD980698849

PART 1
GENERAL PERMIT CONDITIONS

PART 1

GENERAL PERMIT CONDITIONS

1.1 INTRODUCTION

This Part contains conditions pertaining to all hazardous waste storage facilities permitted under the New Mexico Hazardous Waste Act NMSA 1978, Sections 7-4-4-1 et. seq. (Repl. Pamp. 1993) (HWA) and the Resource Conservation and Recovery Act 42 U.S.C. Section 6901 et. seq. (RCRA).

1.2 EFFECT OF PERMIT

The Secretary of the New Mexico Environment Department (Secretary) issues this Permit to Safety-Kleen Systems Inc. (Permittee) Service Center, located in Farmington, New Mexico, the owner and operator, of a 12,000-gallon spent solvent above ground storage tank and one container storage unit (EPA I.D. Number NMD980698849). This Permit authorizes the Permittee to accept, manage, store, and transfer off-site hazardous waste at the Facility, and establishes the general and specific standards for these activities, pursuant to the New Mexico Hazardous Waste Act and the New Mexico Hazardous Waste Regulations, 20.4.1.100 NMAC et. seq.

Compliance with this permit during its term constitutes compliance, for purposes of enforcement, with 20.4.1.500 and 20.4.1.800 NMAC, which incorporate 40 CFR Parts 264 and 268, only for those management practices specifically authorized by this permit. The Permittee must also comply with 20.4.1.100, 20.4.1.200, 20.4.1.300, and 20.4.1.400 NMAC, which incorporate 40 CFR Parts 260, 261, 262, and 263, to the extent the requirements of those Sections are applicable. The Permittee must also comply with all applicable self-implementing provisions imposed by statute or rule.

Compliance with this Permit shall not constitute a defense to any order issued or any action brought under HWA Sections 74-4-10.E or 74-4-13; RCRA Sections 3008(a), 3008(h), 3013, 7002, or 7003 (42 U.S.C. 6928(a) and (h), 6934, and 6973); Sections 104, 106(a), and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA - 42 U.S.C. 9601 et. seq.), or any other law providing for protection of public health or the environment. This Permit does not convey any property rights of any sort or any exclusive privilege, nor authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local laws or regulations, in

accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.4 and 40 CFR 270.30(g)).

The complete Permit consists of Permit Parts 1 through 7 and Permit Attachments 1 through 12 as follows:

- Part 1 - General Permit Conditions
- Part 2 - General Facility Conditions
- Part 3 - Storage of Hazardous Waste in Containers
- Part 4 - Storage of Hazardous Waste in Tanks
- Part 5 - Corrective Action
- Part 6 - Subpart BB Standards for Equipment Leaks
- Part 7 - Subpart CC Standards for Organic Air Emissions
- Attachment 1 - Description and Design and Operation of the Facility
- Attachment 2 - Authorized Wastes and Part A Application
- Attachment 3 - Waste Analysis Plan
- Attachment 4 - Security Plan
- Attachment 5 - Inspection Schedule
- Attachment 6 - Preparedness and Prevention
- Attachment 7 - Contingency Plan
- Attachment 8 - Manifesting, Reporting, and Record Keeping
- Attachment 9 - Personnel Training
- Attachment 10 - Closure Plan
- Attachment 11 - Corrective Action Units
- Attachment 12 - Financial Assurance and Closure Cost Estimate

1.3 PERMIT ACTIONS

1.3.1 Term of Permit

This Permit shall be effective for a fixed period of ten (10) years from the effective date of issuance as specified in the

Permit certificate and shall not be extended by modification beyond the maximum duration in accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.50(a) and (b)).

1.3.2 Permit Modification, Suspension and Revocation

This Permit may be modified, suspended, terminated, re-issued, or revoked for cause as specified in HWA Section 74-4-4.2 and 20.4.1.900 NMAC (incorporating 40 CFR 270.41 through 270.43). The filing of a request by the Permittee for a permit modification, suspension, termination, re-issuance, or revocation, or the notification of planned changes or anticipated noncompliance, shall not stay any permit condition, in accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.30(f)).

1.3.3 Permit Renewal

The Permittee shall renew this Permit by submitting an application for a new permit at least one hundred eighty (180) calendar days before the expiration date of this Permit pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.10(h) and 270.30(b)).

1.3.4 Continuation of Expiring Permit

If the Permittee has submitted a timely and complete application for renewal of this Permit as specified in 20.4.1.900 NMAC (incorporating 40 CFR 270.10 and 40 CFR 270.13 through 270.29), this Permit shall remain in effect until the effective date of the new Permit if, through no fault of the Permittee, the Secretary has not issued a new Permit on or before the expiration date of this Permit as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.51)).

1.3.5 Scope of Permit

This Permit authorizes the storage of hazardous wastes in the one designated container storage room of the Facility and the 12,000-gallon spent solvent storage tank as defined herein, and at no other locations at the Facility.

1.4 PERMIT CONSTRUCTION

1.4.1 Citations

Whenever provisions of this Permit or of the New Mexico Hazardous Waste Management Regulations (HWMR), 20.4.1 NMAC (incorporating 40 CFR Parts 260 through 270) are cited, the citation shall include all subordinate provisions of the cited provision paragraphs of this Permit or of the HWMR. When subordinate

sections are cited, such citations shall include all subsections of the cited paragraphs.

If there is a conflict between the language of the Permit Parts and the language of the Permit Attachments, the language of the Permit Parts shall override the language in the Permit Attachments.

1.4.2 Severability

The provisions of the Permit are severable, and if any provision of this Permit, or any application of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby.

1.5 DEFINITIONS

For purposes of this Permit, terms used herein shall have the same meanings as those in HWA, RCRA, and their implementing regulations, unless this Permit specifically provides otherwise. Where a term is not defined in HWA, RCRA, pursuant regulations, EPA guidelines or publications, or this Permit, the meaning associated with such a term shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

"Action levels" are health-based concentrations of hazardous constituents determined by the Secretary to be indicators for the protection of human health and/or the environment.

"Area of Concern (AOC)" means any discernable area that may have a release of hazardous waste or hazardous constituents, which is a solid waste management unit (SWMU) and which the Secretary determines may pose a threat to human health or the environment.

"Container Storage Unit" (CSU) means the Safety-Kleen Systems Inc. Farmington Service Center Container Storage Facility comprised of one hazardous waste storage room.

"Corrective Action Management Unit" (CAMU) includes any area within the Safety-Kleen Systems Inc. Farmington Service Center that is designated by the Secretary under the HWA, and its regulations, for the purpose of implementing corrective action requirements. A CAMU shall only be used for the management of remediation wastes while implementing corrective measures requirements at the Facility.

"Corrective Measures" includes all corrective action necessary to protect human health and the environment for all releases of

hazardous waste or hazardous constituents from any solid waste management unit at the Facility, regardless of the time at which waste was placed in the unit, as required under Section 74-4-4.2.B of the HWA and 20.4.1.500 NMAC (incorporating 40 CFR 264.101)). Corrective measures may address releases to air, soils, surface water or groundwater.

"Extent of Contamination" is defined as the horizontal and vertical area in which the concentrations of hazardous constituents in the environmental media being investigated are above detection limits or background concentrations indicative of the region, whichever is appropriate as determined by the Secretary.

"Facility" means Safety-Kleen Systems Inc. Farmington Service Center, located in Farmington, NM, including all contiguous land, and structures, other appurtenances, and improvements on the land, used for managing, accepting, and storing hazardous waste, located at 4210 A. Hawkins Road, Farmington, NM 87401. For the purposes of implementing any provision of the HWA, RCRA, and this Permit including, but not limited to, corrective action under 20.4.1.500 NMAC (incorporating 40 CFR 264.101), or RCRA Section 3008(h), HWA 74-4-10.E, the Facility includes all contiguous property under the control of the owner or operator seeking a permit under 20.4.1 NMAC, incorporating 40 CFR 260 through 40 CFR 270 pursuant to 20.4.1.100 NMAC (incorporating 40 CFR 260.10).

"Foreign Source" refers to hazardous waste generated outside the United States of America.

"Hazardous Constituents" are those substances listed in 20.4.200 NMAC (incorporating 40 CFR 261 Appendix VIII), and 20.4.1.500 NMAC (incorporating 40 CFR 264 Appendix IX).

"Hazardous Waste" means a hazardous waste as defined in Section 74-4-3 (I) of HWA, and 20.4.1.200 NMAC (incorporating 40 CFR 261.3).

"Interim Measures" are actions necessary to minimize or prevent the further migration of contaminants and limit actual or potential human and environmental exposure to contaminants while long-term corrective action remedies are evaluated and, if necessary, implemented.

"Off-Site Source" means a generator of hazardous waste located within the United States of America, but outside the Permittee's Facility boundary.

"Release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching,

dumping, or disposing of any hazardous waste or hazardous constituents into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous waste or hazardous constituents).

"Remediation Waste" for the purposes of this permit includes all solid and hazardous wastes, and all media (including groundwater, surface water, soils, and sediments) and debris, which contain listed hazardous wastes or which themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing corrective action requirements. For the Facility, remediation wastes may originate only from within the Facility boundary, but may include releases beyond the Facility boundaries.

"Secretary" means the Secretary of the New Mexico Environment Department or his/her designee or authorized representative.

"Solid Waste Management Unit" (SWMU) means any discernible waste management unit or area at a RCRA facility in which solid waste has been placed at any time, and from which the Secretary determines there may be a risk of a release of hazardous constituents, regardless of whether the SWMU is or ever was intended for the management of solid or hazardous waste. Placement of solid waste includes one time and accidental events that were not remediated, as well as any unit or area at which solid waste has been routinely and systematically placed.

1.6 DUTIES AND REQUIREMENTS

1.6.1 Duty to Comply

The Permittee shall comply with all conditions in this Permit, except to the extent and for the duration such noncompliance is authorized in an emergency permit specified in 20.4.1.900 NMAC (incorporating 40 CFR 270.61). Any permit noncompliance, except under the terms of an emergency permit, constitutes a violation of HWA and/or RCRA and may subject the Permittee, its successors and assigns, officers, directors, employees, parents, or subsidiaries, to an administrative or civil enforcement action, including civil penalties and injunctive relief, under Section 74-4-10 or Section 74-4-10.1 of HWA or Sections 3008(a) and (g), 7002, or 7003 of RCRA; to permit modification, suspension, reissuance, termination, revocation, denial of a permit application modification request under Section 74-4-4.2 of HWA; to criminal fines or imprisonment under HWA Section 74-4-11 or Section 3008(d), (e), or (f) of RCRA; or to a combination of the foregoing pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.30(a)).

1.6.2 Duty to Reapply

If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittee shall apply for and obtain a new Permit. The Permittee shall submit a complete application for a new Permit at least 180 calendar days before the expiration date of this Permit, unless permission for a later date has been granted by the Secretary in accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.10(h) and 40 CFR 270.30(b)). The Secretary shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

1.6.3 Transfer of Permit

The Permittee shall not transfer this Permit to any person except after providing notice to and receiving approval from the Secretary. The prospective new owner or operator must file a disclosure statement with the Secretary as specified in Section 74-4-4.7 of HWA. The Secretary may require modification or revocation and re-issuance of this permit in accordance with 20.4.1.900 NMAC and 20.4.1.901 NMAC (incorporating 40 CFR 270.40(b) and 40 CFR 270.41(b)(2)).

Before transferring ownership or operation of the Facility during its active operating life or post-closure care period, the Permittee shall notify the new owner or operator in writing of the requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264) and 20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(3) and 40 CFR 270.40)) pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.12(c)), and of this Permit.

1.6.4 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the terms of this Permit, as provided by 20.4.1.900 NMAC (incorporating 40 CFR 270.30(c)).

1.6.5 Duty to Mitigate

In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment, as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.30(d)).

1.6.6 Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.30(e)).

1.6.7 Duty to Provide Information

The Permittee shall furnish, within a reasonable time, any relevant information the Secretary requests to determine whether cause exists for modifying, suspending, or revoking this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Secretary, upon request, copies of records required to be retained by this Permit pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.74(a)) and 20.4.1.900 NMAC (incorporating 40 CFR 270.30(h)).

Permit Condition 1.6.7 shall not be construed to limit, in any manner, the Secretary's authority under Section 74-4-4.3 of HWA, or Section 3007(a) of RCRA.

1.6.8 Inspection and Entry

The Permittee shall allow the Secretary, or authorized representatives, upon the presentation of credentials and other documents as may be required by law, the following entry and inspection privileges as specified in 20.4.1.900 NMAC (incorporating 40 CFR 270.30(i)):

Permit Condition 1.6.8 shall not be construed to limit, in any manner, the Secretary's authority under Section 74-4-4.3 of HWA, or Section 3007(a) of RCRA.

1.6.8.a Entrance to premises

The Permittee shall allow the Secretary, or authorized representatives, upon the presentation of credentials and other documents as may be required by law, to enter at reasonable times into the Permittee's premises where the regulated Facility or activity is located or conducted, or where records must be kept

under the conditions of this Permit as specified in 20.4.1.900 NMAC, incorporating 40 CFR 270.30(i);

1.6.8.b Access to Records

To have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

1.6.8.c Inspection

To inspect at reasonable times the Facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

1.6.8.d Sampling

To sample or monitor at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by RCRA and/or HWA, any substances or parameters, including soil, surface water, and ground water at the Facility.

1.6.9 Monitoring and Records

1.6.9.a Representative sampling

For purposes of monitoring, the Permittee shall take samples and measurements representative of the monitored activity as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.30(j)(1)), and the procedures specified in Permit Condition 2.5.2.

1.6.9.b Record retention

The Permittee shall retain records of all ground water monitoring information, including all calibration and maintenance records, well logs, copies of all reports and records required by this Permit, the waste minimization certification required by 20.4.1.500 NMAC (incorporating 40 CFR 264.73 (b)(9)), and records of all data used to complete the Permit Application for a period of at least three (3) years from the date of the sample, measurement, report, record, certification, or application as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.30(j)(2)). This period may be extended by request of the Secretary at any time and is automatically extended during the course of any unresolved enforcement action regarding this facility.

1.6.9.c Monitoring records contents

In accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.30(j)(3)), records of monitoring information shall include:

1. The dates, exact place, and times of sampling or measurements;
2. The names and qualifications of the individuals who performed the sampling or measurements;
3. The name and address of the laboratory or laboratories that performed the analyses;
4. The dates analyses were performed;
5. The names and qualifications of the individuals who performed the analyses;
6. The analytical techniques or methods used; and
7. The results of such analyses.

1.6.10 Reporting Requirements

1.6.10.a Reporting Planned Changes

The Permittee shall give notice to the Secretary, as soon as possible, of any planned physical alterations or additions to the permitted facility, in accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(1));

1.6.10.b Reporting Anticipated Noncompliance

The Permittee shall give advance notice to the Secretary of any planned changes in the permitted facility or in any activities, which may result in noncompliance with Permit requirements, as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(2));

1.6.10.c Certification of Construction or Modification

If the Facility is modified, the Permittee shall not store hazardous waste in the modified portion of the permitted Facility, until the following conditions specified in 20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(2)), have been satisfied;

1.6.10.c.i Submittal of statement

The Permittee has submitted to the Secretary, by certified mail or hand delivery, a letter signed by the Permittee and an independent professional engineer registered in New Mexico stating that the Facility modification meets the requirements of this Permit; and

1.6.10.c.ii Inspection by the Secretary

The Secretary has:

1. Inspected the modified or newly constructed portion of the CSU or the 12,000-gallon spent solvent storage tank and finds it is in compliance with conditions of this Permit; or
2. Waived the inspection or, within fifteen (15) calendar days from the date of submission of the letter required by Permit Condition 1.6.10.c.i, has not notified the Permittee of his intent to inspect.

1.6.10.d Twenty-Four Hour and Subsequent Reporting

1.6.10.d.i Oral report

The Permittee shall report to the Secretary any noncompliance which may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances, as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(6)(i)). The report shall include the following:

1. Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies; and
2. Any information of a release or discharge of hazardous waste, or of a fire or explosion from the CSU, the 12,000-gallon spent solvent storage tank, or any other facility area, which could threaten the environment or human health outside the Facility.

The description of the occurrence shall include:

- a. Name, address, and telephone number of the owner or operator;
- b. Name, address, and telephone number of the Facility;
- c. Date, time, and type of incident;
- d. Name and quantity of material(s) involved;
- e. The extent of injuries, if any;

- f. An assessment of actual or potential hazards to the environment and human health outside the Facility, where this is applicable; and
- g. The estimated quantity and disposition of recovered material that resulted from the incident.

1.6.10.d.ii Written report

The Permittee shall submit a written notice within 5 calendar days from the time the Permittee becomes aware of the noncompliance pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(6)(iii)). The Secretary may waive the five-day requirement in favor of a written report within 15 days.

The written notice shall contain the following:

- 1. A description of the noncompliance and its cause;
- 2. Name, address, and telephone number of the owner or operator;
- 3. Name, address, and telephone number of the Facility;
- 4. The period of the occurrence including exact date and time, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue;
- 5. Name and quantity of materials involved;
- 6. The extent of injuries, if any;
- 7. An assessment of actual or potential hazards to the environment and human health outside the Facility, where this is applicable;
- 8. Estimated quantity and disposition of recovered material that resulted from the incident; and
- 9. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

1.6.11 Contingency Plan Implementation

If the Contingency Plan provided in Permit Attachment 7 is implemented, the Permittee shall comply with the reporting requirements required by 20.4.1.500 NMAC (incorporating 40 CFR 264.56(j)).

1.6.12 Corrective Action

Corrective action required pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.101) shall continue under this Permit for any period necessary to comply with the requirements specified in Part V of this Permit.

1.6.13 Other Noncompliance

The Permittee shall report all other instances of noncompliance not otherwise required to be reported under this Permit at the time monitoring reports are submitted. The reports shall contain the information listed in Permit Condition 1.6.10.d.ii, as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(10)).

1.6.14 Other Information

Whenever the Permittee becomes aware that he failed to submit any relevant facts in the Permit Application, or submitted incorrect information in the Permit Application or in any report to the Secretary, the Permittee shall promptly submit such facts or information in writing to the Secretary as required by the requirements of 20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(11)).

1.6.15 Waiver of Defense.

In any judicial action brought in the United States District Court for the District of New Mexico under RCRA (or under the HWA), the Permittee waives all objections and defenses it may have to the jurisdiction of such Federal Court or to venue in such Federal District.

1.6.16 Admissibility of Data

In any administrative or judicial action to enforce a condition of this Permit, the Permittee waives any objection to the admissibility as evidence of any data generated pursuant to this Permit.

1.7 SIGNATORY REQUIREMENT

The Permittee shall sign and certify all applications, reports, or information submitted to or requested by the Secretary or required by this Permit as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.11 and 270.30(k)).

**1.8 REPORTS, NOTIFICATIONS, AND SUBMISSIONS TO THE NEW
MEXICO ENVIRONMENT DEPARTMENT**

The Permittee shall submit by certified mail or hand delivery, all reports, notifications, or other submissions required by this Permit to be sent or given to the NMED. The submissions should be sent by certified mail or hand delivered to:

Manager

Permits Management Program

Hazardous Waste Bureau

New Mexico Environment Department

2905 Rodeo Park Drive East, Building 1

Santa Fe, New Mexico 87505-6303

Telephone Number: (505) 428-2500

Facsimile Number: (505) 428-2567

1.9 CONFIDENTIAL INFORMATION

The Permittee may claim confidentiality for any information required to be submitted by this Permit, to the extent authorized by Section 74-4-4.3 (D) of the HWA and 20.4.1.900 NMAC (incorporating 40 CFR 270.12).

1.10 DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The Permittee shall maintain at the Facility, until completion of closure as specified in Permit Attachment 10, the following documents and all amendments, revisions and modifications to these documents:

1. *Waste Analysis Plan*, contained in Attachment 3, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.13(b)) and this Permit.
2. *Inspection Plan and Schedule*, contained in Attachment 5, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.15(b)(2)) and this Permit.
3. *Personnel Training* documents and records, contained in Attachment 9, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.16(d)) and this Permit.

4. *Contingency Plan*, contained in Attachment 7, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.53(a)) and this Permit, and including summary reports and details of all incidents that require implementation of the Contingency Plan as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.56(j)).
5. *Operating Record*, contained in Attachment 8, *Manifesting, Reporting, and Record Keeping*, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.73) and this Permit.
6. *Closure Plan*, contained in Attachment 10, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.112(a)) and this Permit.
7. Annually adjusted closure cost estimate as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.142(b) and (d)), and this Permit.
8. The names, addresses, and phone numbers of the Emergency Coordinator (EC) and all persons designated as alternate EC, as required by Permit Condition 2.13.4 and as shown in Attachment 7-3 of Permit Attachment 7, *Contingency Plan*.
9. A list of all equipment, as contained in the Permit Attachment 7-2, *Emergency Equipment List*, which must be regulated as required by 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart BB, and Subpart CC).
10. A signed duplicate copy of the liability policy required under Permit Condition 2.19.

New Mexico Environment Department
September 2003

Safety-Kleen Systems, Inc. Farmington, NM, Service Center
Facility Operating Permit
RCRA Permit No. NMD980698849

PART 2
GENERAL FACILITY CONDITIONS

PART 2

GENERAL FACILITY CONDITIONS

2.1 INTRODUCTION

This Part sets forth the standards that every owner/operator of a Hazardous Waste Storage Facility is required to meet, in order to manage and store hazardous waste in the CSU and in the 12,000-gallon spent solvent aboveground storage tank in a manner protective of human health and the environment.

2.2 OPERATION AND MAINTENANCE OF THE FACILITY

The Permittee shall maintain and operate the Facility to minimize the possibility of a fire, explosion, or any unplanned, sudden or non-sudden release of hazardous waste or constituents to air, soil, ground water, or surface water, which could threaten human health, or the environment as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.31).

2.2.1 Hazardous Waste From Off-site Sources

The Permittee shall receive off-site hazardous waste in compliance with the requirements and conditions specified in this Permit. The Permittee shall only receive the hazardous waste listed in Permit Attachment 2, *Authorized Wastes and Part A Application*, for management and storage at the Facility.

2.3 REQUIRED NOTICES

2.3.1 Hazardous Waste Imports

The Permittee shall not accept wastes from a Foreign Source without prior authorization from the U. S. Environmental Protection Agency (EPA). The Permittee shall include the authorization in Facility operating record, and send a copy of the authorization document to the New Mexico Environment Department.

2.3.2 Required Notification To Off-Site Sources

Before the Permittee receives hazardous waste from an Off-Site Source for the first time, the Permittee shall inform the generator in writing that the Permittee has the appropriate permit(s) for, and will accept, the waste the generator is shipping. The Permittee shall keep a copy of this written notice as part of the operating record as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.12(b)).

2.4 LAND DISPOSAL REGULATIONS

2.4.1 Prohibitions

The Permittee shall not place in any land disposal unit the wastes specified in RCRA Section 3004 unless the Secretary has established disposal or treatment standards for the hazardous waste and the Permittee meets such standards and other applicable conditions of this Permit.

The Permittee is prohibited, pursuant to 20.4.1.800 NMAC (incorporating 40 CFR 268.50(a)), from storing hazardous waste restricted from land disposal pursuant to 20.4.1.800 NMAC (incorporating 40 CFR part 268 Subpart C) unless the following conditions are met:

1. The Permittee stores such wastes in tanks, containers, or containment buildings on-site solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal;
2. The Permittee stores such wastes in tanks, containers, or in the CSU solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal pursuant to 20.4.1.800 NMAC (incorporating 40 CFR 268.50(a)(2)), and;
 - a. Each container is clearly marked to identify its contents and the date each period of accumulation begins; and
 - b. Each tank is clearly marked with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or such information is recorded and maintained in the Operating Record pursuant to 20.4.1.800 NMAC (incorporating 40 CFR 268.50(a)(2)(ii)).

The Permittee may store such wastes for up to one year unless the Secretary can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal as required in 20.4.1.800 NMAC (incorporating 40 CFR 268.50(b)).

The Permittee may store such wastes beyond one year, however the Permittee bears the burden of proving that such storage was

solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal as required in 20.4.1.800 NMAC (incorporating 40 CFR 268.50(c)).

The prohibition of 20.4.1.800 NMAC (incorporating 40 CFR 268.50(a)), does not apply to hazardous wastes that meet the treatment standards specified under 40 CFR 268.41, 40 CFR 268.42, and 40 CFR 268.43, or the treatment standards specified under the variance in 40 CFR 268.44, or where treatment standards have not been specified, or is in compliance with the applicable prohibitions specified in 40 CFR 268.32, or RCRA Section 3004 in accordance with 20.4.1.800 NMAC (incorporating 40 CFR 268.50(e)).

2.4.2 Liquid Hazardous Wastes Containing Polychlorinated Biphenyls (PCBs)

The Permittee is prohibited from managing or storing liquid hazardous wastes containing PCBs at concentrations greater than or equal to 50 parts per million (ppm). Hazardous wastes with PCB concentrations in excess of 50 ppm must be regulated by a Toxic Substances Control Act (TSCA) permit from the United States Environmental Protection Agency (EPA), and must be stored at the Facility as required by the requirements of 40 CFR 761.65(b), and must be removed from storage and treated or disposed of within one year of the date when such wastes are first placed into storage as required by 20.4.1.800 NMAC (incorporating 40 CFR 268.50(f)). A copy of the TSCA Permit issued by the EPA for the storage of PCBs must be submitted to the New Mexico Environment Department before acceptance of such waste at the facility pursuant to 20.4.1.800 NMAC (incorporating 40 CFR 268.50).

2.4.3 Waste Minimization

The Permittee shall submit a certified plan in writing annually by December 1, for the previous year ending September 30, indicating that:

The Permittee has a program in place to reduce the volume and toxicity of all hazardous wastes which are generated by the Permittee's Facility operation to the degree determined to be economically practicable; and the proposed method of treatment, storage, or disposal is the most practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment. This certified plan shall address the items below:

1. Any written policy or statement that outlines goals, objectives, and/or methods for source reduction and recycling of hazardous waste at the Facility;

2. Any employee training or incentive programs designed to identify and implement source reduction and recycling opportunities;
3. Any source reduction and/or recycling measures implemented in the last five years or planned for the near future;
4. An itemized list of the dollar amounts of capital expenditures and operating costs devoted to source reduction and recycling of hazardous waste;
5. Factors that have prevented implementation of source reduction and/or recycling;
6. Sources of information on source reduction and/or recycling received at the Facility (e.g., local government, trade associations, suppliers, etc.);
7. An investigation of additional waste minimization efforts, which could be implemented at the Facility. This investigation shall analyze the potential for reducing the quantity and toxicity of each waste stream through production reformulation, recycling, and all other appropriate means. The analysis shall include an assessment of the technical feasibility, cost and potential waste reduction for each option;
 - a. The certified plan shall also include:
 1. A flow chart or matrix detailing all hazardous wastes the Permittee's Facility produces, by quantity and type and by building/area;
 2. A written determination demonstrating the need to use those processes which produce a particular hazardous waste due to a lack of alternative processes, available technology, or available alternative processes that would produce less volume of hazardous waste;
 3. A written determination that shall demonstrate the applicability or inapplicability of the following waste minimization techniques:

When removing coating from parts (stripping wastes) before applying a new coat, avoid the use of:

1. Excess thinner;

2. Abrasive media stripping;
3. Bead-blasting for paint stripping; and
4. Clean coating equipment after each use.

When using solvents (spent solvent wastes) for parts cleaning operations:

1. The use of water-soluble cutting fluids instead of oil-based fluids;
2. The use of bead-blasting for paint-stripping;
3. The prevention of cross-contamination;
4. The use of peel coatings in place of protective oils; and
5. Reduce the number of different solvents.

A written determination that shall demonstrate the applicability/inapplicability of a continued annual reduction of hazardous waste streams on the Permittee's Facility from the milestone date of November 2001. The milestone date represents a 50% reduction from the effective date of the modified operating permit.

The Permittee shall include this certified plan in the operating record.

2.5 GENERAL WASTE CHARACTERIZATION

2.5.1 General Requirements

The Permittee shall not store or treat any hazardous waste at a permitted hazardous waste management unit at the Facility unless the hazardous waste has been fully characterized as specified by the characterization requirements of this Permit, including the Waste Analysis Plan (WAP) located in Permit Attachment 3 to demonstrate compliance with all waste characterization requirements of 20.4.1.500 NMAC (incorporating 40 CFR Part 264), specifically 40 CFR 264.13, 20.4.1.800 NMAC (incorporating 40 CFR Part 268), particularly 40 CFR 268.7 and 40 CFR 268.9.

The waste characterization requirements of this Permit do not apply to wastes stored at the Facility on a transfer basis (i.e., for less than ten (10) days) as described at 20.4.1.400 NMAC (incorporating 40 CFR 263.12). The containers shall be inspected to ensure they are in good condition and shall be segregated from

other profiled wastes, clearly identified as 10-day wastes along with the date of arrival.

The following types of waste shall not be accepted for management at the Facility:

1. DOT forbidden, Class 1, Division 1.1, 1.2, 1.3, and 1.4 explosives;
2. Pyrophoric wastes; and
3. Radioactive waste.

Waste characterization requirements are specified both in this Permit Section and the WAP. If there is a conflict between the conditions in this Permit Section and the conditions in the WAP, the conditions in this Permit Section shall supersede the conflicting conditions in the WAP.

The Permittee shall obtain the following hazardous waste characterization information at the waste's point of generation in compliance with 20.4.1.800 NMAC (incorporating 40 CFR 268.9(c)) and 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subparts BB and CC):

1. All applicable EPA Hazardous Waste Numbers (i.e., waste codes) in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.13) and 20.4.1.800 NMAC (incorporating 40 CFR 268.9(a));
2. Whether the waste meets the applicable Land Disposal Restriction (LDR) treatment standards specified at 20.4.1.800 NMAC (incorporating 40 CFR 268.40, 40 CFR 268.45, and 40 CFR 268.49) in compliance with 20.4.1.800 NMAC (incorporating 40 CFR 268.7(a) and (b)). To determine the applicable treatment standard(s) for each listed and/or characteristic waste code, the Permittee must obtain the following waste characterization information:
 - a. Identify all applicable hazardous constituents as defined in 20.4.1.100 NMAC (incorporating 40 CFR 260.10) or underlying hazardous constituents (UHC), as defined in 20.4.1.800 NMAC (incorporating 40 CFR 268.2(i)), in the waste or in the treated residue, in compliance with 20.4.1.800 NMAC (incorporating 40 CFR 268.7 and 40 CFR 268.9 respectively), unless the waste will be treated and monitored for all constituents. The Permittee shall specifically address all inorganic

constituents listed on the table of Universal Treatment Standards at 40 CFR 268.48;

- b. Identify the waste's treatability category (i.e., wastewater or non-wastewater) as defined at 20.4.1.800 NMAC (incorporating 40 CFR 268.2(d) and (f));
 - c. Whether the waste belongs to a treatment/regulatory subcategory as identified in table "Treatment Standards for Hazardous Wastes" at 20.4.1.800 NMAC (incorporating 40 CFR 268.40);
 - d. For hazardous debris as defined at 20.4.1.800 NMAC (incorporating 40 CFR 268.2(g)) to be treated with the alternative treatment technologies provided by 20.4.1.800 NMAC (incorporating 40 CFR 268.45), identify the contaminants subject to treatment as described at 20.4.1.800 NMAC (incorporating 40 CFR 268.45(b)); and
 - e. For contaminated soil subject to LDRs as provided in 20.4.1.800 NMAC (incorporating 40 CFR 268.49(a)), identify the constituents subject to treatment as described in 20.4.1.800 NMAC (incorporating 40 CFR 268.49(d)).
3. Whether air emission requirements in 20.4.1.500 NMAC (incorporating 40 CFR Part 264 Subpart BB) apply to a waste managed in equipment, in compliance 40 CFR subpart BB. This determination shall conform to Permit Condition 2.5.6.a; and
 4. Whether air emission requirements in 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart CC) apply to a waste managed in a tank or container, in compliance with 40 CFR 264.1082. This determination shall conform to Permit Condition 2.5.6.b.

The Permittee shall characterize all hazardous wastes, prior to placement in a storage or treatment unit at the Facility, to determine the following in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.13(a)(1)):

1. Whether the waste is listed as an authorized waste in Permit Attachment 2, *Authorized Wastes and Part A Application*, and is not otherwise prohibited by the Permit;

2. The waste characteristics necessary to prevent the mixing or placing of incompatible wastes in the same container or in unacceptable proximity in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.17 and 40 CFR 264.177), or in a tank system in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.199). The Permittee shall characterize the waste sufficiently to prevent the impairment of containers by associated wastes in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.172), and to prevent the impairment of secondary containment systems by associated wastes in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.193(c)(1));
3. Characterization sufficient to prevent accidental ignition or reaction of ignitable or reactive wastes in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.17), in containers in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.177), and tank systems in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.198); and
4. Whether the waste contains free liquids, as defined at 20.4.1.500 NMAC (incorporating 40 CFR 260.10 and 40 CFR 261.7(b)(1)).

2.5.2 Acceptable Knowledge

The Permittee shall obtain the waste characterization information required under Permit Section 2.5.1 above by real-time sampling and analysis, and/or by use of Acceptable Knowledge (AK).

Acceptable Knowledge is defined in U.S. EPA's *Waste Analysis at Facilities that Generate, Treat and Dispose of Hazardous Wastes* (OSWER 9938.4-03, April 1994) as process knowledge and prior sampling data that may or may not conform to RCRA. Sampling and analysis is the preferred method, and the Permittee shall obtain characterization by sampling and analysis whenever feasible.

Acceptable Knowledge may be used as the sole method to characterize waste only when the waste is from processes that are well documented with supporting information that address all characterization requirements of this Permit, including the requirement to determine the LDR status of the waste as specified at Permit Condition 2.5.1, or if there is prior sampling and analysis data with documentation that demonstrates conformance to the sampling and analysis requirements of this Permit.

Acceptable Knowledge shall be considered a suitable waste characterization method for waste that is an unused, commercial chemical product, reagent, or chemical of known physical and chemical constituents, for example is a P or U-listed EPA

Hazardous Waste Number under 20.4.1.200 NMAC (incorporating 40 CFR 261.33), and the waste is documented by a packaging label, a Material Safety Data Sheet, or equivalent information supplied by the manufacturer identifying the chemical content of the waste.

For treated wastes, hazardous constituents shall be identified utilizing current sampling and analysis (i.e., acceptable knowledge is not permitted) in compliance with 20.4.1.800 NMAC (incorporating 40 CFR 268.7(b)).

2.5.2.a Acceptable Knowledge Documentation

The Permittee shall maintain documentation supporting the use of AK for each waste stream including all specific AK documentation assembled and used in the AK process, whether or not it supports the decision to use AK. This AK documentation shall be used to generate an AK Summary Report for each waste stream that shall be maintained in the Facility Operating Record in accordance with 20.4.1.800 NMAC (incorporating 40 CFR 268.7(a)(6)) and 20.4.1.500 NMAC (incorporating 40 CFR 264.73(b)(3)).

For each waste stream, the Permittee shall maintain in the Operating Record, at a minimum, the following information supporting the use of process knowledge in the process knowledge documentation:

1. The location where the waste stream is generated;
2. Waste stream volume and time period of generation;
3. Description of the waste generating process; and
4. All material inputs or other information that identifies the chemical content and physical form of the waste stream.

2.5.3 Waste Sampling

The Permittee shall establish and utilize a Sampling and Analysis Plan (SAP) for each waste stream undergoing sampling. The SAP shall identify the appropriate sampling methods to characterize the waste stream in accordance with Permit Condition 2.5.1. The Permittee shall maintain the SAP in the specific waste's characterization documentation and shall document SAP compliance in the Facility's Operating Record for a minimum of three years from the date the waste was last stored (or treated).

The SAP shall identify the sample containers, preservation techniques, and holding times for each waste sampled. The SAP must conform to the most recent version of *Test Methods for*

Evaluating Solid Waste, Physical/Chemical Methods, (U.S. EPA Publication SW-846) Chapter 9, *Sampling Plan*. The SAP must ensure collection of a representative sample of wastes by means that preserve its original physical form and composition and ensure prevention of contamination or changes in concentration of the constituents to be analyzed. The SAP shall ensure sample collection meets the quality assurance objectives (QAO's) required under Permit Section 2.5.5. The number of samples of each waste shall be sufficient to demonstrate that the upper limit of the confidence interval for the population mean is less than the applicable regulatory threshold, in accordance with SW-846.

The Secretary may reject any data if it is determined to be unreliable for any reason.

2.5.4 Laboratory Analysis

The Permittee shall establish and utilize a Sampling and Analysis Plan (SAP) for each waste stream undergoing analysis. The SAP shall identify the appropriate laboratory analytical methods to characterize the waste stream in accordance with Permit Condition 2.5.1. The Permittee shall perform or obtain laboratory analysis of wastes in accordance with the conditions of this Permit Section, the WAP, and the SAP. The SAP shall identify the appropriate laboratory analytical methods, analytical detection limits, and analytical reporting limits. The Permittee shall maintain the SAP in the specific waste's characterization documentation and in the Facility's Operating Record.

If the Permittee wishes to use an analytical method other than that identified in the WAP, the Permittee shall submit a petition to use the alternative analytical method to NMED for its approval in accordance with 20.4.1.100 NMAC (incorporation 40 CFR 260.21).

If the Permittee uses an independent contract laboratory to perform analyses, the Permittee shall inform the laboratory in writing that it must operate under the waste analysis conditions set forth in this Permit.

When using laboratory analysis as part of a hazardous waste determination, the Permittee shall require the laboratory to report concentrations for all hazardous constituents listed at 20.4.1.800 NMAC (incorporating 40 CFR 268.48, Table of Universal Treatment Standards), that the analytical test method is capable of measuring. When using laboratory analysis to demonstrate that the waste meets its applicable LDR treatment standard concentrations specified at 20.4.1.800 NMAC (incorporating 40 CFR 268.40, Treatment Standards for Hazardous Wastes), in compliance with 20.4.1.800 NMAC (incorporating 40 CFR 268.7(a) and (b)), the

Permittee shall demonstrate that analytical method detection limits (MDL's) are not higher than the treatment standard.

2.5.5 Quality Assurance (QA)/ Quality Control (QC)

The Permittee shall perform and record all waste characterization QA/QC procedures in accordance with SW-846 for data used to support waste characterizations required under this Permit Section. The statistical concepts of waste characterization precision, accuracy, completeness, comparability, and representativeness, as described at SW-846, shall be addressed. The Permittee shall maintain a record of all QA/QC determinations in a manner traceable to specific wastes in the Facility Operating Record.

When performing waste sampling required under this Permit Section, the Permittee shall use the applicable sample collection QA/QC procedures specified at SW-846, Chapter 1, Section 3.4, *Field QA and QC Requirements*, including, but not limited to, those dealing with equipment preparation and field equipment maintenance, calibration, and cleaning. The Permittee shall identify and perform the appropriate number of control samples associated with each sample collected, for example; trip and field blanks, field duplicates, and field spikes.

When performing laboratory analysis required under this Permit Section, the Permittee shall analyze method blanks, laboratory duplicates, and laboratory control samples to assess the quality of the data resulting from laboratory analytical programs.

The Permittee shall ensure, prior to placement of a waste in a storage or treatment unit at the Facility, that all waste characterization information is accurate by making the following determinations:

1. Whether the waste was characterized at the point of generation in compliance with Permit Condition 2.5.1, 20.4.1.800 NMAC (incorporating 40 CFR 268.9(c)), and 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subparts BB and CC));
2. Whether routinely generated wastes are re-characterized to ensure the waste's characterization is accurate and up to date in compliance with Permit Condition 2.5.5.a, *Characterization Re-evaluation Frequency*, and 20.4.1.500 NMAC (incorporating 40 CFR 264.13(a)(3));
3. Whether Facility personnel who perform waste characterization at the point of generation have appropriately identified when the process or operation

generating routinely generated wastes has changed in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.13(a)(3)(i)); and

4. Whether Facility personnel, including personnel who perform waste characterization at the point of generation, are trained in the applicable waste characterization requirements as required by 20.4.1.500 (incorporating 40 CFR 264.16)).

2.5.5.a Characterization Re-Evaluation Frequency

The Permittee shall re-evaluate the characterization of routinely generated wastes to ensure that the characterization remains accurate and up to date for subsequent batches of waste, in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.13(b)(4)). The results of the re-evaluation shall be thoroughly documented and placed in the operating record for a minimum of three years from the date the waste was last stored (or treated).

The Permittee shall perform re-evaluation of a waste in accordance with the following minimum requirements:

1. Annually to verify the accuracy of initial characterization results achieved. For wastes originally characterized through sampling and analysis, re-evaluation shall be achieved using the same sampling and analysis methodologies used in the initial analysis. For wastes characterized through AK, re-evaluation may be achieved through a review of AK information;
2. When there is a change in waste-generating processes. Any information that indicates a change in the process that generates the waste and may affect the waste shall cause the waste to be re-characterized; and
3. When the Permittee is notified by an off-site facility receiving hazardous waste from the Facility that the characterization of the waste received at the receiving facility does not match a pre-approved waste analysis certification or accompanying waste manifest or shipping paper. The Permittee shall notify NMED within 24 hours of their receipt of such a discrepancy notice from a receiving facility.

Wastes listed at 20.4.1.200 NMAC (incorporating 40 CFR 261.31, P and U listings) and for which the Permittee possesses an MSDS or equivalent information from the manufacturer identifying chemical

content are exempt from the re-evaluation requirements of this Permit Condition.

2.5.6 Air Emissions

The Permittee shall submit to NMED within three months of the effective date of this Permit a list of all locations at the Facility subject to the air emission control requirements at 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subparts BB and CC). The Permittee shall record the results of air emission waste characterization in the Facility Operating Record.

2.5.6.a Wastes Managed in Equipment

If the Permittee manages hazardous wastes at the Facility in equipment subject to the requirements of 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart BB), the Permittee shall characterize that waste in compliance with the requirements of this Permit Section. That characterization shall determine whether the equipment is in "light" or "heavy liquid" service or in "gas/vapor" service, as defined at 20.4.1.500 NMAC (incorporating 40 CFR 264.1031 and 264.1063(h)), and determine whether the organic concentration of the waste equals or exceeds ten percent by weight, using one of the methods specified at 20.4.1.500 NMAC (incorporating 40 CFR 264.1063(d)). The Permittee shall use samples in making this concentration determination that are representative of the highest total organic content hazardous waste expected to contact the equipment, in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.1063(g)).

2.5.6.b Air Emissions from Tanks and Containers

If the Permittee manages hazardous waste at the Facility in tanks or containers subject to the requirements of 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart CC), the Permittee shall characterize that waste to determine whether it has an average volatile organic (VO) concentration at the point of point of generation of less than 500 parts per million by weight (ppmw), in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.1082(c)(1)). The average VO concentration shall be determined using the procedures specified in 20.4.1.500 NMAC (incorporating 40 CFR 264.1083(a)). The Permittee shall review and update this waste characterization at least once every 12 months following the date of the initial determination for the wastes entering the unit subject to this Permit Condition.

The Permittee shall not be required to determine the volatile organic concentration of hazardous wastes in containers for the purpose of complying with this Permit Condition if the Permittee

controls air pollution emissions from all hazardous waste containers in accordance with the container construction specifications and operation requirements at 20.4.1.500 NMAC (incorporating 40 CFR 264.1086(b)).

2.5.7 Wastes Received from Off-Site

The Permittee shall obtain from the off-site facility, a detailed chemical and physical analysis of any hazardous waste received at the Facility, in compliance with the Waste Analysis Plan located in Permit Attachment 3, and 20.4.1.500 NMAC (incorporating 40 CFR 264.13(c)). This characterization may be in the form of AK if all applicable waste characterization requirements specified in this Permit Section are met and documented.

The Permittee shall physically examine the shipment of waste from the off-site facility at the time of acceptance for correct documentation, including appropriate waste container identification and labeling. The Permittee shall not accept at the Facility a hazardous waste shipment from an off-site facility without Uniform Hazardous Waste Manifests and LDR Notification Forms, as applicable. If discrepancies are found, the Permittee shall notify NMED of the discrepancy within five days, and shall return the waste to the off-site facility within 90 days, unless the off-site facility provides acceptable resolution to the discrepancy within 90 days after receipt of the waste at the Facility.

2.5.8 Waste Shipped to an Off-Site Facility

Prior to off-Facility shipment of hazardous waste, the Permittee shall comply with all generator standards in 20.4.1.300 NMAC (incorporating 40 CFR Part 262), in compliance with 20.4.1.300 NMAC (incorporating 40 CFR 262.10(h)) and 20.4.1.500 NMAC (incorporating 40 CFR 264.71(c)), including the waste characterization necessary to facilitate appropriate packaging for transportation, including the U.S. DOT Proper Shipping Name, Hazard Class, an ID Number for each waste.

2.5.9 Treated Waste Requirements

The Permittee shall characterize treatment-derived wastes by determining whether the waste is a hazardous waste in compliance with the requirements of Permit Section 2.5 and in compliance with the notification and record keeping requirements specified at 20.4.1.800 NMAC (incorporating 40 CFR 268.7(b)(3)(ii), *Treatment Facility Paperwork Requirements Table*, Requirement #1), unless otherwise specified below.

Treatment-derived wastes, including wastes that are de-characterized and are no longer hazardous, shall be characterized by determining whether the waste meets the applicable Land Disposal Restriction (LDR) treatment standards specified at 20.4.1.800 NMAC (incorporating 40 CFR 268.40, 268.45, and 268.49) in compliance with 20.4.1.800 NMAC (incorporating 40 CFR 268.7(b)). This characterization shall include the determination of the existence within the waste of any of the constituents of concern for F001-F005, and F039, in compliance with 20.4.1.800 NMAC (incorporating 40 CFR 268.7(b)(3)(ii)), and underlying hazardous constituents in characteristic wastes as defined at 20.4.1.800 NMAC (incorporating 40 CFR 268.2), unless the waste will be treated and monitored for all constituents, in compliance with 20.4.1.800 NMAC (incorporating 40 CFR 268.7(b)(3)(ii)). Treatment-derived waste characterization shall be performed by testing wastes in accordance with 20.4.1.800 NMAC (incorporating 40 CFR 268.7 (b) (1) and (b) (2)).

2.5.10 Remediation Wastes

The Permittee shall characterize remediation waste, as defined at 20.4.1.100 NMAC (incorporating 40 CFR 260.10), in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.1(j)). The Permittee shall characterize remediation waste, including contaminated soil, in compliance with all waste characterization requirements in this Permit Section 2.5, including, but not limited to; a hazardous waste determination, the identification of all applicable hazardous waste codes, and LDR status determination.

The Permittee shall obtain, at a minimum, the following information when characterizing remediation hazardous waste; the origin of the waste and how it was subsequently managed, the time and circumstances of the release that created the waste, and any investigation or other reports (e.g., RCRA Facility Investigation or SWMU Reports) describing the release.

2.5.11 Containerized Waste

The Permittee shall characterize hazardous wastes placed inside containers, including overpacked drums, to ensure that the wastes do not react dangerously with, decompose, or ignite sorbent material in the container, in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.316(c)), and to ensure that the wastes are not incompatible or reactive, in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.316(d) and 264.317(e)). The Permittee shall characterize laboratory packs if they are intended to undergo the alternative treatment standards at 40 CFR 268.42 (c), as to whether they contain any of the prohibited hazardous wastes (i.e., EPA Hazardous Waste Codes specified at 40 CFR Part 268 Appendix IV).

2.5.12 Impermissible Dilution

The Permittee shall not dilute a restricted waste, or the residue from treatment of a restricted waste as a substitute for treatment in compliance with 20.4.1.800 (incorporating 40 CFR 268.3). Dilution to avoid an applicable treatment standard includes, but is not limited to, the addition of solid waste to reduce a hazardous constituent's concentration, and an ineffective treatment method that does not destroy, remove, or permanently immobilize hazardous constituents. Aggregating or mixing wastes as part of a legitimate treatment process are not considered impermissible dilution for purposes of this Permit Condition.

2.5.13 Waste Characterization Records

The Permittee shall record and maintain in the Facility Operating Record the results of waste analysis and waste determinations performed as specified in this Permit Section in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.73(b)(3), (7), (10), (11), (12), (15), and (16)), and copies of the notification and certification statements required at Permit Condition 2.5.14. The requirements of this Permit Condition apply to solid wastes even when the hazardous characteristic is removed prior to disposal, or when the waste is excluded from the definition of hazardous or solid waste under 40 CFR 261.2 through 261.6, or exempted from Subtitle C regulation, subsequent to the point of generation, in accordance with 20.4.1.800 (incorporating 40 CFR 268.7(a)(8)). The Permittee shall maintain records of the LDR status determination for all wastes in accordance with 20.4.1.800 NMAC (incorporating 40 CFR 268.7(a)(6)).

2.5.14 Notification and Certification

The Permittee shall provide the notification and certification statements associated with the treatment and storage of hazardous wastes in compliance with 20.4.1.800 NMAC (incorporating 40 CFR 268.7 and 268.9).

2.5.15 Generator Certification

The Permittee shall obtain a generator's signature on a certification for each small and large quantity generator pickup of parts washer solvent, immersion cleaner, or paint gun cleaner to be stored at the Facility under this Permit and maintain the certification in the Facility Operating Record. The certification shall contain the following wording:

"The Generator identified on the attached manifest number [insert manifest number] (herein after the "Generator") certifies under

penalty of law that the Generator has not mixed the solvent identified in the attached manifest with other material, that the Generator has not introduced any substances in the solvent which is regulated as hazardous waste or which contains polychlorinated biphenyls (PCBs), and that the Generator has not otherwise caused the alteration or the characteristics or components of the solvents."

Waste Characterization Documentation Table

| Name | Location | Description |
|--|---|---|
| Waste Analysis Plan (WAP) | Permit Attachment 3 | Permittee's commitments regarding waste characterization procedures. The WAP is a fully enforceable document. If contradictions exist between the WAP and the Permit, see Permit Condition 2.5.1. |
| Sampling and Analysis Plan (SAP) | Permit Conditions 2.5.3, 2.5.4, and 2.5.5 | Required when sampling and analysis is required. See permit conditions for specifics. |
| Record of quality assurance/quality control determinations | Permit Condition 2.5.5 | Regards waste sampling and analysis. Record traceable to a specific waste. See permit condition for specifics. |
| Record of waste re-evaluation | Permit Condition 2.5.5.a | See permit conditions for specifics. |
| Record of waste characterization | Permit Condition 2.5.9, and the WAP | General requirement to maintain a record of waste characterization results. |
| Record of evaluation of air emission control applicability | Permit Condition 2.5.6.b | Re-evaluation of average volatile organic concentration in wastes managed in containers and tanks to be performed annually. See permit condition for specifics. |
| LDR Notification and Certification Statements | Permit Condition 2.4, and the WAP | Accompanies manifest when waste is transferred off-site. Identifies all waste codes and underlying hazardous constituents associated with waste plus other information identified at 40 CFR 268.7(a). |

| Name | Location | Description |
|-------------------------------------|--|--|
| Uniform Waste Manifests | Not referenced in Permit or WAP but required at 40 CFR 262 Subpart B | Documents transfer of waste to an off-site TSDF. |
| Hazardous Waste Management Database | WAP | Documents amounts of wastes received and shipped off-site. |
| Waste disposal request form | WAP | Documents transfer of waste to an off-site TSDF. |
| LDR status determination records | WAP | Documents determination of LDR status. |

2.5.16 Waste Analysis Plan (WAP)

The waste analysis plan, located in Permit Attachment 3, shall be modified, and submitted to the Secretary for approval, whenever a new waste product is collected or when sampling and material management methods change. The approved revision(s) to the WAP shall be provided to the Facility manager and training shall be conducted for appropriate personnel.

Changes to the waste analysis plan will be processed as minor modifications, pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.42).

2.6 DUST SUPPRESSION

The Permittee shall not use waste or used oil or any other material, which is contaminated with dioxin, PCB, or any other hazardous waste, other than a waste identified solely on the basis of ignitability, for dust suppression or road treatment at the Facility pursuant to 20.4.1.700 NMAC (incorporating 40 CFR 266.23(b)).

2.7 SECURITY

In order to prevent the unknowing entry and minimize the possibility of unauthorized entry of persons into the Facility, the Permittee shall comply with the security provisions and procedures described in Permit Attachment 4, *Security Plan*, and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.14).

2.7.1 Barriers and Means to Control Entry

The Permittee shall maintain an artificial barrier (i.e. a fence in good repair) around the Facility as a means to control entry into the active portion of the Facility as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.14(b)(2)), and as specified in Permit Attachment 4, *Security Plan*.

The six-foot high chain link fence as described in Permit Attachment 4 shall be maintained around the Facility to prevent unauthorized personnel and livestock from gaining access to the Facility and its surrounding land. Access to the Facility shall only be through the gates described in Permit Attachment 4.

2.7.2 Warning Signs

Warning signs in English, Spanish, and Navajo, shall be posted at all the gates and around the fence, and at other locations of the Facility in sufficient numbers to be visible from all angles of approach to the facility. These signs must be legible from a distance of at least 25 feet from any approach to the perimeter fence, in compliance with the standards contained in 20.4.1.500 NMAC (incorporating 40 CFR 264.14(c)).

2.8 GENERAL INSPECTION REQUIREMENTS

2.8.1 Inspection Schedule

The Permittee shall implement the *Inspection Plan* contained in Permit Attachment 5, to detect any container and storage tank equipment malfunctions and/or deteriorations, operator errors, and discharges in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.15 (a)).

2.8.2 Inspection Frequency

The Permittee shall inspect monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment at the frequency specified in the weekly and monthly inspection schedules contained in Permit Attachment 5 and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.15(b)).

2.8.3 Remediation Of Equipment/Structures

The Permittee shall remedy any deterioration or malfunction of equipment or structures, which an inspection reveals as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.15(c)).

2.8.4 Inspection Log and Checklist

The Permittee shall use the inspection checklists contained in Permit Attachment 5, *Inspection Plan*. The Permittee shall record the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.15(d)).

2.8.5 Inspection Records

The Permittee shall maintain inspection checklists in the Facility operating record for at least 3 years from the date of inspection as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.15(d)).

2.9 PERSONNEL TRAINING

The Permittee shall conduct personnel training following the procedures described in Permit Attachment 9, *Personnel Training*, and the following Permit Conditions as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.16).

2.9.1 Personnel Training Requirements

The Permittee shall train all persons involved in the management and storage of hazardous waste in procedures relevant to the positions in which they are employed, as described in Permit Attachment 9, *Personnel Training*, and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.16).

2.9.2 Personnel Training Content

The personnel training program shall include the courses and procedures described in Permit Attachment 9, and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.16(a) through (c)).

2.9.3 Personnel Training Records

The Permittee shall keep training records on current personnel until closure of the Facility. Training records on former employees shall be kept at the Facility office for at least 3 years from the date the employee last worked at the Facility as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.16(d) and (e)).

2.10 LOCATION STANDARDS

Since the Facility is located within the boundaries of San Juan County, New Mexico, which is not listed in 40 CFR 264 Appendix

VI, *Political Jurisdictions in Which Compliance With 40 CFR 264.18(a) Must Be Demonstrated*, Section 2.10 is not applicable.

Because the Facility is not located within a 100-year floodplain, the Permittee is not required to comply with the floodplain standards specified in 20.4.1.500 NMAC (incorporating 40 CFR 264.18(b)).

2.11 SPECIAL PROVISIONS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTES

The Permittee shall follow the procedures for managing and storing ignitable, reactive, and incompatible wastes set forth in Permit Attachment 1, *Description and Design and Operation of the Facility* and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.17).

2.12 PREPAREDNESS AND PREVENTION

2.12.1 Required Equipment

The Permittee shall maintain at the Facility the equipment set forth in Permit Attachment 7-2, *Emergency Equipment and Locations*, and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.32 and 40 CFR 264.52(e)).

The Permittee shall ensure the Facility alarm system is operating at all times in order to provide immediate emergency instruction, either voice or signal, to facility personnel in the event of an emergency pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.32(a)).

2.12.2 Testing and Maintenance of Equipment

The Permittee shall test and maintain the equipment specified in Permit Attachment 7-2 as necessary to assure its proper operation in time of emergency pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.33).

2.12.3 Access to Communications or Alarm System

The Permittee shall maintain access to the communications or alarm system as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.34).

2.12.4 Required Aisle Space

The Permittee shall maintain enough aisle space to allow the unobstructed movement of Facility personnel, fire protection equipment, spill control equipment, and decontamination equipment

to any area of Facility operation as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.35), and as described in Permit Attachment 1, *Description and Design and Operation of the Facility*.

2.12.5 Arrangements with Local Authorities

The Permittee shall maintain coordination agreements with the City of Farmington Fire Department and the San Juan Regional Medical Center as described in Permit Attachment 7, *Contingency Plan*. These arrangements shall be either Memoranda of Understanding or Mutual Aid Agreements between the Permittee and the off-site cooperating agencies, and shall include the elements required by 20.4.1.500 NMAC (incorporating 40 CFR 264.37 (a)). Copies and descriptions of these Memoranda of Understanding and Mutual Aid Agreements shall be maintained in the operating record at the Facility office as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.37(b)).

Where State or local authorities decline to enter into a such arrangements, the Permittee must document the refusal in the operating record, pursuant to 20.4.1.500 NMAC, incorporating 40 CFR 264.37(b).

2.13 CONTINGENCY PLAN

2.13.1 Implementation of Plan

The Permittee shall immediately implement the Contingency Plan contained in Permit Attachment 7, whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents, which could threaten human health, or the environment as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.51(b)). Emergency equipment and locations as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.52(e) is provided in Attachment 7-2.

2.13.2 Copies of the Plan

The Permittee shall maintain copies of the Contingency Plan and all revisions and amendments to the Plan at the Facility as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.53). The Permittee shall provide copies of the current Contingency Plan and all revisions to the Plan to the Secretary and all entities with which the Permittee has emergency Memoranda of Understanding or Mutual Aid Agreements as specified in 20.4.1.500 NMAC (incorporating 40 CFR 264.53).

2.13.3 Amendments to Plan

The Permittee shall review and immediately amend, if necessary, the Contingency Plan, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.54).

2.13.4 Emergency Coordinator

An Emergency Coordinator and an alternate Emergency Coordinator, as specified in Permit Attachment 7-3, *Emergency Contacts*, shall be available at all times in case of an emergency. The Emergency Coordinator or alternate Emergency Coordinator shall be thoroughly familiar with the Contingency Plan and shall have the authority to commit the resources needed to implement the Contingency Plan pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.55). In the event of an imminent or actual emergency, the Emergency Coordinator shall activate the internal emergency alarms, notify the appropriate State or local agencies with designated response roles, and implement the other procedures as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.56), and as described in Permit Attachment 8, *Manifesting, Reporting, and Record Keeping*.

2.14 MANIFEST SYSTEM

The Permittee shall comply with the manifest requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264.71, 40 CFR 264.72, and 40 CFR 264.76). The Permittee shall not accept for management or storage any hazardous waste from an off-site source without the accompanying manifest.

2.15 RECORD KEEPING AND REPORTING

In addition to the record keeping and reporting requirements specified elsewhere in this Permit and 20.4.1.500 NMAC (incorporating 40 CFR 264.73(a)), the Permittee shall comply with the following conditions:

2.15.1 Operating Record

The Permittee shall maintain all applicable documentation in the Facility operating record until closure of the Facility in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.73(b)).

The Permittee shall maintain a written operating record for each hazardous waste received until closure of the Facility pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.73(b)). The Permittee shall maintain a written operating record of all monitoring records for at least 3 years from the date of report, sampling, measurement, or certification and shall maintain all

records from ground water monitoring wells and associated ground water surface elevations for the active life of the Facility as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.30(j)(2)).

The Permittee shall retain in the Facility operating record, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator pursuant to 40 CFR 268.7, in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.73(b)(16)).

2.15.2 Biennial Report

The Permittee shall comply with the biennial reporting requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264.75).

2.15.3 Personnel and Telephone Number Changes

The Permittee shall inform the Secretary in writing of changes in its management personnel and telephone numbers within 15 calendar days of the changes.

2.16 GENERAL CLOSURE REQUIREMENTS

2.16.1 Performance Standard

The Permittee shall close the Facility following the procedures described in the Closure Plan outlined in Permit Attachment 10, *Closure Plan*, and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.111 and 40 CFR 264.112(a) and (b)).

2.16.2 Amendment to Closure Plan

The Permittee shall submit a written notification of or request for a Permit modification to authorize a change of the approved Closure Plan whenever necessary, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.112(c)).

2.16.3 Notification of Closure

The Permittee shall notify the Secretary in writing at least 45 calendar days prior to the date on which the Permittee expects to begin closure of the Facility and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.112(d)).

2.16.4 Time Allowed For Closure

Within 90 calendar days after receiving the final volume of hazardous waste, the Permittee shall remove all hazardous waste from the Facility to a permitted treatment, storage or disposal

facility as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.113(a)), following the schedule specified in Permit Attachment 10, *Closure Plan*, or as amended as required by Permit Condition 2.16.2.

Within 180 days after receiving the final volume of hazardous waste the Permittee shall complete final closure activities in accordance with the schedule specified in Permit Attachment 10, *Closure Plan*, or as amended as required by Permit Condition 2.15.2 pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.113(b)).

2.16.5 Disposal or Decontamination of Equipment, Structures, and Soils

The Permittee shall decontaminate or dispose of all contaminated equipment, structures, and soils, as specified in Permit Attachment 10, *Closure Plan*, and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.114). By removing any hazardous wastes or hazardous constituents during partial and final closure, the Permittee may become a generator of hazardous waste and therefore must handle that waste in accordance with 20.4.1.300 NMAC (incorporating 40 CFR 262).

2.16.6 Sampling for Metals, Organics and Halogenated Organics at the Facility

The Permittee shall collect soil and ground water samples at the Facility for metals (i.e., Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Zinc), organics and halogenated organics using EPA approved methods in the latest copy of SW-846 and its updates, or an alternate method approved by the Secretary.

2.16.7 Certification of Closure

Within 60 calendar days from the date of completion of closure of the Facility, and within 60 calendar days of completion of final closure of the Facility, the Permittee shall provide to the Secretary, by registered mail, a final closure report and written closure certification signed by an independent professional engineer registered in the State of New Mexico, that the facility was closed as required by the procedures specified in Permit Attachment 10, *Closure Plan*, and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.115).

2.17 COST ESTIMATE FOR FACILITY CLOSURE

2.17.1 Cost Estimates

The Permittee shall provide a detailed written estimate, in current dollars, of the cost of closing the Facility in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.142(a)). The most recent closure cost estimate shall be inserted into Permit Attachment 12, *Financial Assurance and Closure Cost Estimates*.

2.17.2 Adjustment of Cost Estimates

During the active life of the Facility the Permittee shall adjust the closure cost estimate for inflation within 60 calendar days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with 20.4.1.500 NMAC (incorporating 40 CFR 264.143), and Permit Condition 2.19, *Liability Requirements*, or when using an approved State required mechanism, upon such a date as required by the State pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.142(b)).

2.17.3 Revision of Cost Estimates

The Permittee shall revise the closure cost estimates within 30 calendar days after NMED approves a request to modify the Closure Plan if the change increases the cost of closure as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.142(c)).

2.17.4 Record Keeping

The Permittee shall maintain current cost estimates prepared in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.142(a) and (c)), and if the closure cost estimate was adjusted, the date of adjustment in the Facility operating record during the operating life of the Facility as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.142(d)).

2.18 FINANCIAL ASSURANCE FOR FACILITY CLOSURE

2.18.1 Submittal Of Financial Assurance Documentation

The Permittee shall establish financial assurance for closure of the Facility in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.143).

2.18.2 Changes To The Financial Assurance Instrument

The Permittee shall not change the financial assurance instrument without approval of the Secretary pursuant the applicable

financial assurance option referenced in 20.4.1.500 NMAC (incorporating 40 CFR 264.143).

2.19 LIABILITY REQUIREMENTS

2.19.1 Liability Coverage Amounts

The Permittee shall have and maintain liability coverage for sudden and accidental occurrences in the amount of one million dollars (\$1,000,000) per occurrence, with an annual aggregate of at least two million dollars (\$2,000,000), exclusive of legal defense costs in accordance with each applicable requirement of 20.4.1.500 NMAC (incorporating 40 CFR 264.147(a)).

The Permittee shall have and maintain liability coverage for nonsudden accidental occurrences in the amount of three million dollars (\$3,000,000) per occurrence, with an annual aggregate of at least six million dollars (\$6,000,000), exclusive of legal defense costs in accordance with each applicable requirement of 20.4.1.500 NMAC (incorporating 40 CFR 264.147(b)).

2.19.2 Submittal of Liability Documentation

The signed duplicate original of the liability policy required in compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.147) is contained in Permit Attachment 12, *Financial Assurance and Closure Cost Estimates*.

2.20 DISCLOSURE

As required by Section 74-4-4.7 of the HWA, the Permittee filed a disclosure statement with all requisite information with the New Mexico Environment Department. A copy of the letter from the New Mexico Department of Public Safety to NMED regarding background investigation conducted on Safety-Kleen Systems Inc., is included in Attachment 1-2 of Permit Attachment 1. If any information required to be included in the disclosure statement provided by the Permittee to comply with Section 74-4-4.7 of the HWA changes, or if any information is added after filing the statement, the Permittee shall provide that information to the Secretary within 30 calendar days after the change or addition. Failure to provide such information in a timely manner may constitute the basis for the revocation of this Permit.

2.21 INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS

2.21.1 Declaration Of Bankruptcy By Financial Institution

The Permittee shall notify the Secretary by certified mail of the commencement of bankruptcy, and the name of any guarantor within 10 calendar days after commencement of the proceeding as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.148(a)).

2.22 ESTABLISHMENT OF OTHER FINANCIAL ASSURANCE OR LIABILITY COVERAGE

The Permittee shall establish other financial assurance or liability coverage within 60 calendar days from the date the Trustee or institution issuing the surety bond, letter of credit, or insurance policy declares bankruptcy; otherwise the Permittee will be deemed to be without the required financial assurance pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.148(b)).

2.23 GROUND WATER MONITORING

The Permittee shall conduct quarterly ground water detection monitoring at the Facility, when it fails to achieve clean closure. The Permittee shall analyze ground water samples for the hazardous waste constituents contained in 20.4.1.200 NMAC (incorporating 40 CFR 261, Appendix VIII), that have been detected in the ground water at the monitoring wells, or are expected to be in, or derived from, waste stored at the Facility in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.93(a)).

2.24 ESTABLISHMENT OF A BASELINE

The Permittee shall conduct background soil sampling at the Facility in areas not impacted by waste management within 180 calendar days from the effective date of this Permit. Sampling locations shall be approved by NMED. The sampling activity is necessary for the establishment of baseline values that shall be used for reference during closure activities described in Permit Attachment 10, *Closure Plan*. The Permittee shall submit a copy of the background sample data to NMED.

2.25 TRANSPORTATION OF HAZARDOUS WASTE

The Permittee shall comply with all U.S. Department of Transportation, State, and local regulatory standards which apply to persons transporting hazardous waste within the United States and the State of New Mexico as required by 20.4.1.400 NMAC (incorporating 40 CFR 263); and any other local restrictions

established for transportation of hazardous waste in the affected communities.

New Mexico Environment Department
September 2003

Safety-Kleen Systems, Inc. Farmington, NM, Service Center
Facility Operating Permit
RCRA Permit No. NMD980698849

PART 3
STORAGE OF HAZARDOUS WASTE IN CONTAINERS

PART 3

STORAGE OF HAZARDOUS WASTE IN CONTAINERS

3.1 INTRODUCTION

This Part contains the regulatory requirements for the Permittee to manage and store hazardous wastes at the Facility. The Permittee is authorized to manage and store in the Container Storage Unit (CSU) only those hazardous wastes listed in Permit Attachment 2, *Authorized Wastes and Part A Application*. Specific Facility and process information for the management, storage and transfer of hazardous waste, and a description of the CSU is provided in Permit Attachment 1. The location of the CSU is shown in Permit Attachment 1-3, *Container Storage Unit Layout*. The photographs located in Permit Attachment 1-1 show the interior of the CSU at the Facility.

The Permittee shall store a maximum of 3,820 gallons of hazardous waste in 55-gallon drums and smaller containers at any one time at the Facility. Attachment 1-1, Figure 1 shows the location of Safety-Kleen's Farmington New Mexico Service Center and Figures 4 and 5 show the surrounding off-site land use. Additional details on the construction and design of the CSU are included in Permit Attachment 1.

3.2 WASTE HANDLING BUILDING

The Permittee shall manage and store hazardous waste in the CSU building as specified in Permit Attachment 1, *Description and Design and Operation of the Facility*, subject to the following conditions:

3.2.1 Storage Containers

The Permittee shall manage and store hazardous waste in the containers specified by Permit Condition 3.4.1 of this Part.

3.2.2 Storage Locations and Quantities

The Permittee shall manage and store hazardous waste in containers in the CSU located within the physical boundary of the warehouse. The warehouse encloses an area of approximately 3060 square feet, which is further divided into the CSU, an office, rest room, a secure area for the storage of various Safety-Kleen products, and the 382-gallon secondary containment area for the CSU. The approximate area of the CSU is 475 square feet. The Permittee shall manage and store quantities of hazardous waste inside approved containers in this location not to exceed the maximum capacities specified in Table 3.1.

3.2.3 Storage Time Limit

The Permittee shall not store any hazardous waste in the CSU for more than 1 year pursuant to 20.4.1.800 NMAC (incorporating 40 CFR 268.50(b)) except as provided in Permit Condition 2.4.1.

3.2.4 Storage on Concrete Floor

The Permittee shall separate, by waste type and compatibility, hazardous waste containers unloaded from trucks transporting hazardous waste from off-site generators to the Facility in the CSU. The CSU shall have a concrete floor that slopes toward the trench secondary containment area to expose and contain any spills quickly as described in Permit Attachment 1, *Description and Design and Operation of the Facility*.

3.2.5 Minimum Aisle Space

The Permittee shall maintain sufficient aisle space between storage containers in the CSU to allow for the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area within the CSU as described in Permit Attachment 6, *Preparedness and Prevention Procedures*, and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.35).

3.3 PERMITTED AND PROHIBITED WASTE IDENTIFICATION

3.3.1 Permitted Waste

The Permittee shall manage and store for subsequent transfer to a permitted treatment, storage, or disposal facility, only the hazardous wastes listed in Permit Attachment 2, *Authorized Wastes and Part A Application*, pursuant to the terms of this Permit.

3.3.2 Prohibited Waste

The Permittee is prohibited from managing and storing any hazardous waste that is not identified in Permit Condition 3.3.1 of this Permit. The Permittee shall not store more than 3,820 gallons of the hazardous waste types specified in Permit Condition 3.3.1 in containers in the CSU at any one time.

TABLE 3.1.

TOTAL STORAGE CAPACITY OF CONTAINER STORAGE UNIT

| TYPE OF STORAGE UNIT | EPA HAZARDOUS WASTE TYPE | AREA (Square Feet- Approximate) | MAXIMUM VOLUME OF WASTES (Gallons) |
|------------------------|---|---------------------------------------|------------------------------------|
| Container Storage Area | Spent Immersion Cleaner and Aqueous Parts Washer Solvents (D004-D011, D018, D019, D021-D030, D032-043), Dry Cleaning Waste (F002), Paint Wastes (D001, F002, F005), and Photo Imaging Wastes (D011) | 475 | 3820 |

3.4 CONDITION OF CONTAINERS

If a container holding hazardous waste is not in good condition (e.g., has severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from such a container to a container that is in good condition or otherwise manage the waste in compliance with the Conditions of this Permit and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.171).

3.4.1 Acceptable Storage Containers

The Permittee shall use containers that comply with the requirements of the United States Department of Transportation shipping container regulations (49 CFR 173, *Shipper's General Requirements for Shipment and Packaging*, and 49 CFR 178, *Specifications for Packaging*) for management and storage of hazardous waste at the CSU.

Containers used for storage of hazardous waste in the CSU shall have a maximum capacity of 55-gallons (208 liters) excluding the 85-gallon (322 liter) overpack drums.

Additional containers that are used for storage of wastes in the CSU are typically described as black, blue, or otherwise, and are coded 3H1/Y1.2/60/97 USA/+AA1170 4.1. Other manufacturers producing similar containers may be used as well. The containers are approximately 26.5 inches by 13.5 inches by 6 inches. The containers have a liquid capacity of approximately 9 gallons each

and are typically used to hold 5 gallons of material. Both petroleum based and water based solvents may be held in the containers.

3.5 COMPATIBILITY OF WASTE WITH CONTAINERS

The Permittee shall use containers made of, or lined with materials, which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.172). The Permittee shall ensure compliance with this requirement by conducting pre-acceptance characterization of waste as described in Permit Attachment 3, *Waste Analysis Plan*, considering the precautions described under "Preventive Measures" in Permit Attachment 1, *Description and Design and Operation of the Facility*.

3.6 MANAGEMENT OF CONTAINERS

The Permittee shall keep all containers closed during storage, except when it is necessary to add or remove waste, and shall not open, handle, or store containers in a manner which may rupture the container or cause it to leak as referenced in 20.4.1.500 NMAC (incorporating at 40 CFR 264.173).

3.7 SECONDARY CONTAINMENT SYSTEMS

The Permittee shall construct and maintain secondary containment systems for all containers in the CSU in accordance with the specifications contained in 20.4.1.500 NMAC (incorporating 40 CFR 264.175), and the procedures described in Permit Attachment 1, *Description and Design and Operation of the Facility*.

3.8 INSPECTION SCHEDULES AND PROCEDURES

The Permittee shall inspect the CSU and evaluate the condition of containers and secondary containment systems, safety equipment, and aisle space daily, quarterly, and annually, to detect leaking containers, deterioration of containers and the containment system caused by corrosion and other factors, in accordance with the Inspection Schedules located in Permit Attachment 5, *Inspection Plan and Schedule*, Attachment 5-1, and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.174).

3.9 RECORD KEEPING

The Permittee shall place the results of all waste analyses and any other documentation showing compliance with the requirements of Permit Condition 2.15, *Record Keeping and Reporting*, in the

Facility operating record, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.73(a)).

3.10 CLOSURE

Before closure of the CSU, the Permittee shall remove all hazardous waste and hazardous waste residues from the containment system in accordance with the procedures described in Permit Attachment 10, *Closure Plan*. Remaining containers, liners, bases and soils containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.178).

3.11 SPECIAL CONTAINER PROVISIONS FOR IGNITABLE OR REACTIVE WASTE

3.11.1 Location of Ignitable and Reactive Waste

The Permittee shall not locate containers holding ignitable or reactive hazardous waste within 15 meters (50 feet) of the Facility's property line as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.176).

3.11.2 Procedures to Prevent Ignition/Reaction

The Permittee shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste and follow the procedures specified in Permit Attachment 6, *Preparedness and Prevention*, and as required by 20.4.1.500 NMAC (incorporating 264.17 and 40 CFR 264.176).

3.11.3 Storage of Hazardous Waste Containers

Containers of ignitable and reactive wastes shall be stacked no more than two high, in order to comply with the National Fire Protection Association's Flammable and Combustible Liquids Code.

3.12 SPECIAL CONTAINER PROVISIONS FOR INCOMPATIBLE WASTE

3.12.1 Storage of Incompatible Wastes

The Permittee shall not place incompatible wastes in the same containers, as set forth in Permit Attachment 6, *Preparedness and Prevention*, and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.177(a)).

3.12.2 Management of Unwashed Containers

The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material in accordance with by 20.4.1.500 NMAC (incorporating 40 CFR 264.177(b)).

3.12.3 Separation of Hazardous Waste Containers

The Permittee shall separate containers of incompatible wastes as described in Permit Attachment 6, *Preparedness and Prevention*, and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.177(c)).

3.13 AIR EMISSION STANDARDS

The Permittee shall manage all hazardous waste placed in the CSU in accordance with the applicable requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264 Subparts BB, and CC) pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.200) and as required by Parts 6 and 7 of this Permit.

New Mexico Environment Department
September 2003

Safety-Kleen Systems, Inc. Farmington, NM, Service Center
Facility Operating Permit
RCRA Permit No. NMD980698849

PART 4
STORAGE OF HAZARDOUS WASTE IN TANKS

PART 4

STORAGE OF HAZARDOUS WASTE IN TANKS

4.1 INTRODUCTION

This Part contains the regulatory requirements for the Permittee to manage and store hazardous wastes at the Facility. The Facility is authorized to manage and store in the 12,000-gallon above ground spent solvent storage tank only those hazardous wastes listed in Permit Attachment 2, *Authorized Wastes and Part A Application*. The storage tank system at the Facility consists of two 12,000-gallon aboveground, vertical cylindrical steel tanks and their ancillary pumps and piping. The tanks are enclosed within secondary containment provided by concrete slab and wall with a capacity of 18,266 gallons. One of the two tanks contains new solvent awaiting distribution and the other contains spent solvent awaiting return to a Safety-Kleen Recycle Center. The 12,000-gallon spent solvent storage tank is the only tank regulated by this Permit. The spent solvent is regulated as a hazardous waste because of the characteristic of ignitability and the possible characteristic of toxicity as measured by the Toxicity Characteristic Leaching Procedure (TCLP).

Ancillary equipment to the spent solvent storage tank includes a return and fill station containing an enclosed drum washer/dumpster into which the contents of a drum of used solvent are emptied. A maximum volume of 375 gallons is retained in the drum/washer dumpster. A float switch controls a pump that moves excess solvent to the spent solvent tank. When the tank is empty, solvent in the bottom of the main cabinet is re-circulated through the drum washer for any remaining drum cleaning requirements. All spent solvents and sediments are then pumped into the spent solvent tank. The return and fill station has a roof and is equipped with concrete secondary containment with a capacity of 730 gallons. Piping to the tank from the return and fill station is steel, with welded joints. It is protected by secondary containment except for approximately five feet at the rear of the return and fill station which must be inspected daily for leaks. The pump, which provides clean solvent for filling drums, is located within the secondary containment. The connections for emptying the spent solvent tank and filling the clean solvent tank from tanker trucks are located within the secondary containment.

Based on the registered professional engineer's assessment of the tank system, the two 12,000-gallon storage tanks were fabricated and installed in 1981.

4.2 PERMITTED AND PROHIBITED WASTE IDENTIFICATION

4.2.1 Permitted Waste

The Permittee may store a maximum total volume of 12,000 gallons of spent solvent in the 12,000-gallon spent solvent storage tank, as described and depicted in Permit Attachment 1, *Description and Design and Operation of Facility*, subject to the terms of this Permit. The hazardous waste exhibits the characteristic of ignitability (D001) and possible toxicity (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043).

4.2.2 Prohibited Waste

The Permittee is prohibited from storing, transporting, or treating hazardous waste that is not identified in Permit Condition 4.2.1 of this Permit.

4.2.3 Storage Time Limit

The Permittee shall not store any hazardous waste in the 12,000 gallon spent solvent storage tank for more than one year pursuant to 20.4.1.800 NMAC (incorporating 40 CFR 268.50(b)) except as provided in Permit Condition 2.4.1.

4.3 SECONDARY CONTAINMENT SYSTEMS

The Permittee shall construct and maintain secondary containment systems for both 12,000-gallon storage tanks, the drum washer/dumpster, and all other related appurtenances in the Facility in accordance with the specifications required by 20.4.1.500 NMAC (incorporating 40 CFR 264.193), and the procedures described in Permit Attachment 1, *Description and Design and Operation of the Facility*. The portion of the return and fill station not provided with secondary containment shall be inspected daily for leaks.

4.4 INSPECTION SCHEDULES AND PROCEDURES

The Permittee shall inspect the 12,000-gallon storage tanks, the drum washer/dumpster, and all other related appurtenances in the Facility in order to assess the condition of the tanks, drum washer/dumpster, related equipment, secondary containment systems, and safety equipment daily, quarterly, and annually, to detect leaks, deterioration of structures and equipment, and the containment system caused by corrosion and other factors, in accordance with the inspection schedules located in Permit Attachment 5, *Inspection Plan and Schedule*, Attachment 5-1, as

required by 20.4.1.500 NMAC (incorporating 40 CFR 264.195) and as follows:

4.4.1 Tanks

The Permittee shall inspect the tank systems in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.195) and the inspection schedules located in Permit Attachment 5, *Inspection Plan and Schedule*. The Permittee shall complete the items in Permit Conditions 4.4.1 and 4.4.2 as part of those inspections.

The Permittee shall inspect the following components of the tank system once each operating day as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.195(b)(1) through 40 CFR 264.195(b)(3));

1. Aboveground portions of the tank system, if any, to detect corrosion or releases of waste;
2. Data gathered from monitoring and leak detection equipment (e.g., level gauges) to ensure that the tank system is being operated according to its design;
3. The construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation).

4.4.2 Overfill Controls

The Permittee shall inspect the overfill controls, in accordance with the inspection schedules located in Permit Attachment 5, *Inspection Plan and Schedule*, pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.195(a)).

4.4.3 Documentation

The Permittee shall document compliance of Permit Condition 4.4 in the Facility Operating Record pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.195(d)).

4.5 RECORD KEEPING

The Permittee shall place the results of all waste analyses and any other documentation showing compliance with the requirements of Permit Condition 2.15, *Record Keeping and Reporting*, in the Facility operating record, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.73(a)).

4.6 OPERATING REQUIREMENTS

The Permittee shall not place hazardous wastes or treatment reagents in the spent solvent tank system if they could cause the tank, its ancillary equipment, or the containment system to rupture, leak, corrode, or otherwise fail. The Permittee shall prevent spills and overflows from the tank or containment systems using the methods described in Permit Attachment 6, *Preparedness and Prevention*, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.194(a) and (b)).

4.7 RESPONSE TO LEAKS OR SPILLS

In the event of a leak or a spill from the tank system, from a secondary containment system, or if a system becomes unfit for continued use, the Permittee shall remove the system from service immediately and complete the following actions as specified in 20.4.1.500 NMAC (incorporating 40 CFR 264.196):

4.7.1 Cessation Of Use

Stop the flow of hazardous waste into the system and inspect the system to determine the cause of the release as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.196(a));

4.7.2 Removal Of Waste

The Permittee shall remove waste and any accumulated precipitation from the system within 24 hours of the detection of the leak to prevent further release and to allow inspection and repair of the system. If the Permittee demonstrates that it is not possible to meet this time period, the Permittee shall notify the Secretary and demonstrate that the longer time period is required pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.196(b)).

If the collected material is a RCRA hazardous waste, it shall be managed in accordance with all applicable requirements of 20.4.1 NMAC (incorporating 40 CFR 264 through 40 CFR 270). If the collected material is discharged through a point source to U.S. waters or to a Publicly Owned Wastewater Treatment facility, it is subject to requirements of the Clean Water Act. If the collected material is released to the environment, it may be subject to reporting under 40 CFR Part 302.

4.7.3 Containment

The Permittee shall immediately conduct a visual inspection of all releases to the environment to prevent further migration of the leak or spill to soils or surface water and remove and

properly dispose of any visible contamination of the soil or surface water as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.196(c)).

4.7.4 Notification And Reports

The Permittee shall report to the Secretary within 24 hours of detection when a leak or spill occurs from the tank system or secondary containment system to the environment pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.196(d)(1)).

A leak or spill is exempted from these requirements if the quantity of waste leaked or spilled is one pound or less and is immediately contained and cleaned up as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.196(d)(2)). If the Permittee has reported the release pursuant to 40 CFR Part 302, this report will satisfy the requirements of this Permit Condition.

Within 30 days of detection of a release to the environment from the tank system or secondary containment system, the Permittee shall report the following information to the Secretary as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.196(d)(3));

1. Likely route of migration of the release;
2. Characteristics of the surrounding soil (including soil composition, geology, hydrogeology, and climate);
3. Results of any monitoring or sampling conducted in connection with the release. If the Permittee finds it will be impossible to meet this time period, the Permittee shall provide the Secretary with a schedule of when the results will be available. This schedule shall be submitted for approval before the required 30-day submittal period expires and shall provide for submission of data as soon as possible;
4. Proximity of downgradient drinking water, surface water, and populated areas;
5. Description of response actions taken or planned.

4.7.5 Provision of Secondary Containment

Unless the Permittee satisfies the requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264.196(e)(2) through 40 CFR 264.196(e)(4)), the tank system must be closed in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.197).

4.7.5.a Releases Caused By Spills

For a release caused by a spill that has not damaged the integrity of the system, the Permittee shall remove the released waste and make any necessary repairs to fully restore the integrity of the system before returning the tank system to service as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.196(e)(2)).

4.7.5.b Tank Leaks

For a release caused by a leak from the primary tank system to the secondary containment system, the Permittee shall repair the primary system prior to returning it to service as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.196(e)(3)).

4.7.5.c Releases To The Environment

For a release to the environment caused by a leak from the aboveground portion of the tank system that does not have secondary containment, and can be visually inspected, the Permittee shall repair that portion of the tank system prior to returning it to service in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.196(e)(4)). The repaired portion of the tank system may be returned to service without secondary containment provided that the requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264.196(f)) are satisfied.

4.7.5.d Tank Component Replacement

If the Permittee replaces a component to comply with the requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264.196(e)(4)), that component must therefore satisfy the requirements for new tank systems or components pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.192 and 40 CFR 264.193).

4.7.5.e Tank System Repairs

For all major repairs to eliminate leaks or restore the integrity of the tank system, the tank system shall not be returned to service unless the Permittee has obtained a certification by an independent, qualified, registered professional engineer pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.11(d)), that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification shall be submitted to the Secretary within 7 days after returning the tank system to use as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.196(f)).

4.8 CLOSURE AND POST CLOSURE

4.8.1 Closure

During closure of the tank system, the Permittee shall remove or decontaminate all waste residues, contaminated system components, contaminated soils, structures and equipment contaminated with waste, and manage them as hazardous waste unless 20.4.1.200 NMAC (incorporating 40 CFR 261.3(d)) applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems must meet all of the requirements specified in 20.4.1.500 NMAC (incorporating 40 CFR 264 Subparts G and H) and in accordance with Permit Attachment 10, *Closure Plan*.

4.8.2 Post-Closure

If the Permittee demonstrates that not all contaminated soils can be practically removed or decontaminated as required in 4.8.1, then the Permittee shall close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.197(b)). In addition, for the purposes of closure, post-closure, and financial responsibility, such a tank system is then considered to be a landfill, and the Permittee shall meet all requirements for landfills as specified in 20.4.1.500 NMAC (incorporating 40 CFR 264 Subparts G and H).

4.9 SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES

The Permittee shall not place ignitable or reactive waste in the tank system or in the secondary containment system, unless the requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264.198) are satisfied.

The Permittee shall comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon, as required in Tables 2-1 through 2-6 of the National Fire Protection Association's Flammable and Combustible Liquids Code, (1977 or 1981), as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.198(b)).

4.10 SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES

The Permittee shall not store incompatible wastes, or incompatible wastes and materials in the tank system, or place hazardous waste in a tank system that has not been decontaminated that previously held an incompatible waste or material unless the requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264.17(b))

are satisfied pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.199).

4.11 AIR EMISSION STANDARDS

The Permittee shall manage all hazardous waste placed in a tank in accordance with the applicable requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264 Subparts BB, and CC) pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.200) and as required by Parts 6 and 7 of this Permit.

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**RESOURCE CONSERVATION AND RECOVERY ACT
OPERATING PERMIT ATTACHMENTS
EPA ID NO. NMD980698849**

Issued to

SAFETY KLEEN SYSTEMS, INC.

For the

SERVICE CENTER

Located in

FARMINGTON, SAN JUAN COUNTY, NEW MEXICO

Issued by

**NEW MEXICO ENVIRONMENT DEPARTMENT
HAZARDOUS WASTE BUREAU
HAROLD RUNNELS BUILDING
1190 ST. FRANCIS DRIVE
P.O. BOX 26110
SANTA FE, NM 87502-6110**

SEPTEMBER 2003


New Mexico Environment Department
September 2003

Safety-Kleen Systems, Inc. Farmington, NM, Service Center
Facility Operating Permit
RCRA Permit No. NMD980698849

ATTACHMENT 2
AUTHORIZED WASTES AND PART A APPLICATION

**ATTACHMENT 2
AUTHORIZED WASTES AND PART A APPLICATION**

| Hazardous Waste Number | Description of Hazardous Waste | Maximum Amount (gallons per year) |
|-------------------------------|---|--|
| | D-listed Wastes: Characteristic Hazardous Wastes | |
| D001 | Spent Solvents, which may include the following: D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043 | 50,000 |
| D001 | Tank Sediment | 2,000 |
| D001 | Spent Immersion Cleaner | 3,000 |
| D001 | Dry Cleaning Waste (quantity included in F002) | |
| D001 | Paint Waste (quantity included in F003) | |
| D011 | Photo Chemical Wastes | 4,464 |
| | | |
| | F-Listed Wastes: Hazardous wastes from Non-specific sources. | |
| F002 | Spent halogenated solvents, Dry Cleaning Waste | 6,000 |
| F003 | Non-halogenated spent solvents, Paint Waste | 4,464 |
| F005 | Non-halogenated spent solvents, Paint Waste (quantity included in F003) | |

| | | | |
|---|---|---|-------------------------------------|
| For EPA Regional Use Only | |  United States Environmental Protection Agency Washington, DC 20460 Hazardous Waste Permit Application Part A <i>(Read the Instructions before starting.)</i> | |
| Date Received Month: Day: Year: | | | |
| I. Facility's EPA ID Number (Mark "X" in the appropriate box.) | | | |
| <input type="checkbox"/> A. Facility A Submission | | <input checked="" type="checkbox"/> B. Revised Part A Submission (Amendment # <u>6-16-07</u>) | |
| C. Facility's EPA ID Number | | D. Secondary ID Number (If applicable) | |
| NM0480698849 | | | |
| E. Name of Facility | | | |
| Safety-Kleen Systems Inc. | | | |
| F. Facility Location (Physical address not P.O. Box or Route Number) | | | |
| A. Street | | | |
| 4210A Hawkins Road | | | |
| Street (Continued) | | | |
| | | | |
| City or Town | | State | Zip Code |
| Farmington | | NM | 87401-3636 |
| County Code (FIPS) | County Name | | |
| | San Juan | | |
| E. Land Type | C. Geographic Location | | D. Facility Existence Date |
| (Dry) (Wet) <input checked="" type="checkbox"/> P | (A) (V) (C) (Program, revision & number) (L) (P) (V) (C) (Program, revision & number) 364420 1081411 | | Month: Day: Year: 01011981 |
| IV. Facility Mailing Address | | | |
| Street or P.O. Box | | | |
| 4210A Hawkins Road | | | |
| City or Town | | State | Zip Code |
| Farmington | | NM | 87401-3636 |
| V. Facility Contact (Person to be contacted regarding waste activities at facility) | | | |
| Name (Last) | | First | |
| Crawford | | Mike | |
| Job Title | | Phone Number (Area Code and Number) | |
| Branch Manager | | 505-327-9070 | |
| VI. Facility Contact Address (See Instructions) | | | |
| A. Contact Address Location (Mailing Office) | | B. Street or P.O. Box | |
| <input checked="" type="checkbox"/> | | 4210A Hawkins Road | |
| City or Town | | State | Zip Code |
| Farmington | | NM | 87401-3636 |

- 2 of 7 -

EPA ID Number (enter from page 1)

Secondary ID Number (enter from page 1)

NMD 980698849

Safety-Kleen is an international, service-oriented company whose customers are primarily engaged in automotive repair, industrial maintenance, and dry cleaning. The company, in operation since 1968, offers solvent collection and reclamation services to customers nationwide. The Farmington Service Center is a service branch which leases and services Safety-Kleen parts cleaning equipment and solvents to Safety-Kleen customers. The service branch also collects spent parts washer solvent, spent immersion cleaner, dry cleaning wastes (perchloroethylene), paint waste/lacquer thinner, photo/imaging wastes and spent industrial solvents. Once a sufficient quantity of materials is collected, the materials are transported to a recycle center, contract reclaimer or other permitted facility for treatment and/or disposal.

| PROCESS CODE | PROCESS | APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY |
|--------------|--|---|
| D79 | Disposal Injection Well | Gallons; Liters; Gallons Per Day; or Liters Per Day |
| D80 | Landfill | Acre-feet of Hectare-meter |
| D81 | Land Application | Acres of Hectares |
| D82 | Ocean Disposal | Gallons Per Day or Liters Per Day |
| D83 | Surface Impoundment | Gallons or Liters |
| D99 | Other Disposal | Any unit of measure listed below |
| S01 | Storage Container (barrel, drum, etc.) | Gallons or Liters |
| S02 | Tank | Gallons or Liters |
| S03 | Waste Pile | Gallons or Liters |
| S04 | Surface Impoundment | Gallons or Liters |
| S05 | | |
| S06 | Containment Building-Storage | Cubic Yards or Cubic Meters |
| S99 | Other Storage | Any Unit of Measure Listed Below |
| T01 | Treatment Tank | Gallons Per Day or Liters Per Day |
| T02 | Surface Impoundment | Gallons Per Day or Liters Per Day |
| T03 | Incinerator | Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; or BTU's Per Hour |
| T04 | Other Treatment | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| T80 | Boiler | Gallons or Liters |
| T81 | Cement Kiln | Gallons Per Day; Liters Per Day |
| T82 | Lime Kiln | Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| T83 | Aggregate Kiln | |
| T84 | Phosphate Kiln | |
| T85 | Coke Oven | |
| T86 | Blast Furnace | |

| PROCESS CODE | PROCESS | APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY |
|--------------|--|---|
| T87 | Smelting, Melting, Or Refining Furnace | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| T88 | Titanium Dioxide Chloride Process Oxidation Reactor | |
| T89 | Methane Reforming Furnace | |
| T90 | Pulping Liquor Recovery Furnace | |
| T91 | Combustion Device Used in the Recovery of Sulfur Values From Spent Sulfuric Acid | |
| T92 | Halogen Acid Furnaces | |
| T93 | Other Industrial Furnaces Listed in 40 CFR §260.10 | |
| T94 | Containment Building-Treatment | |
| X01 | Miscellaneous (Subpart X): Open Burning/Open Incineration | |
| X02 | Mechanical Processing | |
| X03 | Thermal Unit | Any Unit of Measure Listed Below Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; or Kilograms Per Hour Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| X04 | Geologic Repository | |
| X99 | Other Subpart X | |

| UNIT OF MEASURE | UNIT OF MEASURE CODE |
|------------------|----------------------|
| Gallons | G |
| Gallons Per Hour | E |
| Gallons Per Day | U |
| Liters | L |
| Liter Per Hour | H |
| Liters Per Day | V |

| UNIT OF MEASURE | UNIT OF MEASURE CODE |
|----------------------|----------------------|
| Short Tons Per Hour | D |
| Metric Tons Per Hour | W |
| Short Tons Per Day | N |
| Metric Tons Per Day | S |
| Pounds Per Hour | J |
| Kilograms Per Hour | R |

| UNIT OF MEASURE | UNIT OF MEASURE CODE |
|-----------------|----------------------|
| Cubic Yards | Y |
| Cubic Meters | C |
| Acres | B |
| Acre-feet | A |
| Hectares | Q |
| Hectare-meter | F |
| Btu's Per Hour | K |

EPA ID Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

NMD980698849

XII. Process Codes and Design Capabilities (Continued)

EXAMPLE FOR COMPLETING ITEM XII (shown in line number X-1 below): A facility has a storage tank, which can hold 533,788 gallons.

| Line Number | A. Process Code (From list above) | B. PROCESS DESIGN CAPACITY | | C. Process Total Number Of Units | For Official Use Only |
|-------------|--------------------------------------|----------------------------|---------------------------------|----------------------------------|-----------------------|
| | | 1. Amount (Specify) | 2. Unit Of Measure (Enter code) | | |
| X 1 | S 0 2 | 533,788 | G | 001 | |
| 1 | S 0 1 | 3,820 | G | 001 | |
| 2 | S 0 2 | 12,000 | G | 001 | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in item XIII.

XIII. Other Processes (Follow instructions from item XII for D99, S99, T04 and X99 process codes)

| Line Number (Enter the line number in neg w/XS) | A. Process Code (From list above) | B. PROCESS DESIGN CAPACITY | | C. Process Total Number Of Units | D. Description Of Process |
|--|--------------------------------------|----------------------------|---------------------------------|----------------------------------|---------------------------|
| | | 1. Amount (Specify) | 2. Unit Of Measure (Enter code) | | |
| X 1 | T 0 4 | | | | In-situ Vitrification |
| 1 | | N/A | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |

EPA ID Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

N N O 9 3 0 6 9 8 8 4 9

XIV. Description of Hazardous Wastes

- A. EPA HAZARDOUS WASTE NUMBER** - Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristic and/or the toxic constituents of those hazardous wastes.
- B. ESTIMATED ANNUAL QUANTITY** - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic constituent entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or constituent.
- C. UNIT OF MEASURE** - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

| ENGLISH UNIT OF MEASURE | CODE | METRIC UNIT OF MEASURE | CODE |
|-------------------------|------|------------------------|------|
| POUNDS | P | KILOGRAMS | K |
| TONS | T | METRIC TONS | M |

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item XIV A, on page 3 to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic constituent entered in column A, select the code(s) from the list of process codes contained in Item XIV A, on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic constituent.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

- Enter the first two as described above.
- Enter "00" in the extreme right box of Item XIV-E.
- Use additional sheet, enter line number from previous sheet, and enter additional code(s) in Item XIV-E.

- 2. PROCESS DESCRIPTION:** If a code is not listed for a process that will be used, describe the process in the space provided on the form (D-2).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described in the form as follows:

- Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column (C) on that line enter "Included with above" and make no other entries on that line.
- Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM XIV (shown in line numbers X-1, X-2, X-3, and X-4 below): A facility will treat and dispose of an estimated 300 pounds per year of chrome shavings from leather tanning and finishing operations. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

| Line Number | A. EPA HAZARD WASTE NO. (Enter code) | B. ESTIMATED ANNUAL QUANTITY OF WASTE | C. UNIT OF MEASURE (Enter code) | D. PROCESSES | |
|-------------|---|---------------------------------------|------------------------------------|---------------------------|--|
| | | | | (1) PROCESS CODES (Enter) | (2) PROCESS DESCRIPTION (If a code is not entered in D-1) |
| X-1 | K 3 3 4 | 300 | P | T 0 3 0 8 0 | |
| X-2 | D 3 3 2 | 200 | P | T 0 3 0 8 0 | |
| X-3 | D 3 3 1 | 100 | P | T 0 3 0 8 0 | |
| X-4 | D 3 3 2 | | | | Included with Above |

| EPA ID Number (Enter from page 1) | | | | | | | | | | Secondary ID Number (Enter from page 1) | | | | | | | | | | |
|--|---|---|---|---|---------------------------------------|---------------------------------|--------------------------------|---|---|---|--|--|--|--|--|--|--|--|---------------------|--|
| NMD980698849 | | | | | | | | | | | | | | | | | | | | |
| XIV. Description of Hazardous Wastes (Continued; use additional sheets as necessary) | | | | | | | | | | | | | | | | | | | | |
| Line Number | A. EPA Hazardous Waste No. (Enter code) | | | | B. Estimated Annual Quantity of Waste | C. Unit of Measure (Enter code) | D. PROCESSES | | | | | | | | | | | | | |
| | | | | | | | (1) PROCESS CODES (Enter code) | | | | | | | (2) PROCESS DESCRIPTION (If a code is not entered in D(1)) | | | | | | |
| 1 | D | 0 | 0 | 1 | 5,180 | T | S | 0 | 2 | | | | | | | | | | | |
| 2 | D | 0 | 0 | 4 | | | | | | | | | | | | | | | Included with Above | |
| 3 | D | 0 | 0 | 5 | | | | | | | | | | | | | | | " | |
| 4 | D | 0 | 0 | 6 | | | | | | | | | | | | | | | " | |
| 5 | D | 0 | 0 | 7 | | | | | | | | | | | | | | | " | |
| 6 | D | 0 | 0 | 8 | | | | | | | | | | | | | | | " | |
| 7 | D | 0 | 0 | 9 | | | | | | | | | | | | | | | " | |
| 8 | D | 0 | 1 | 0 | | | | | | | | | | | | | | | " | |
| 9 | D | 0 | 1 | 1 | | | | | | | | | | | | | | | " | |
| 10 | D | 0 | 1 | 8 | | | | | | | | | | | | | | | " | |
| 11 | D | 0 | 1 | 9 | | | | | | | | | | | | | | | " | |
| 12 | D | 0 | 2 | 1 | | | | | | | | | | | | | | | " | |
| 13 | D | 0 | 2 | 2 | | | | | | | | | | | | | | | " | |
| 14 | D | 0 | 2 | 3 | | | | | | | | | | | | | | | " | |
| 15 | D | 0 | 2 | 4 | | | | | | | | | | | | | | | " | |
| 16 | D | 0 | 2 | 5 | | | | | | | | | | | | | | | " | |
| 17 | D | 0 | 2 | 6 | | | | | | | | | | | | | | | " | |
| 18 | D | 0 | 2 | 7 | | | | | | | | | | | | | | | " | |
| 19 | D | 0 | 2 | 8 | | | | | | | | | | | | | | | " | |
| 20 | D | 0 | 2 | 9 | | | | | | | | | | | | | | | " | |
| 21 | D | 0 | 3 | 0 | | | | | | | | | | | | | | | " | |
| 22 | D | 0 | 3 | 2 | | | | | | | | | | | | | | | " | |
| 23 | D | 0 | 3 | 3 | | | | | | | | | | | | | | | " | |
| 24 | D | 0 | 3 | 4 | | | | | | | | | | | | | | | " | |
| 25 | D | 0 | 3 | 5 | | | | | | | | | | | | | | | " | |
| 26 | D | 0 | 3 | 6 | | | | | | | | | | | | | | | " | |
| 27 | D | 0 | 3 | 7 | | | | | | | | | | | | | | | " | |
| 28 | D | 0 | 3 | 8 | | | | | | | | | | | | | | | " | |
| 29 | D | 0 | 3 | 9 | | | | | | | | | | | | | | | " | |
| 30 | D | 0 | 4 | 0 | | | | | | | | | | | | | | | " | |
| 31 | D | 0 | 4 | 1 | | | | | | | | | | | | | | | " | |
| 32 | D | 0 | 4 | 2 | | | | | | | | | | | | | | | " | |
| 33 | D | 0 | 4 | 3 | | | | | | | | | | | | | | | " | |

| EPA ID Number (Enter from page 1) | | | | | | | | | | Secondary ID Number (Enter from page 1) | | | | | | | | | |
|--|---|---------------------------------------|---------------------------------|--------------------------------|--|--|--|--|--|---|--|--|--|--|--|--|--|--|---------------------|
| N M D 9 8 0 6 9 8 8 4 9 | | | | | | | | | | | | | | | | | | | |
| XIV. Description of Hazardous Wastes (Continued; use additional sheets as necessary) | | | | | | | | | | | | | | | | | | | |
| Line Number | A. EPA Hazardous Waste No. (Enter code) | B. Estimated Annual Quantity of Waste | C. Unit of Measure (Enter code) | D. PROCESSES | | | | | | | | | | | | | | | |
| | | | | (1) PROCESS CODES (Enter code) | | | | | | | | (2) PROCESS DESCRIPTION (If a code is not entered in D(1)) | | | | | | | |
| 1 | F 0 0 2 | 5,180 | T | S 0 1 | | | | | | | | | | | | | | | included with above |
| 2 | F 0 0 3 | | | | | | | | | | | | | | | | | | " |
| 3 | F 0 0 5 | | | | | | | | | | | | | | | | | | " |
| 4 | D 0 0 1 | | | | | | | | | | | | | | | | | | " |
| 5 | D 0 0 4 | | | | | | | | | | | | | | | | | | " |
| 6 | D 0 0 5 | | | | | | | | | | | | | | | | | | " |
| 7 | D 0 0 6 | | | | | | | | | | | | | | | | | | " |
| 8 | D 0 0 7 | | | | | | | | | | | | | | | | | | " |
| 9 | D 0 0 8 | | | | | | | | | | | | | | | | | | " |
| 10 | D 0 0 9 | | | | | | | | | | | | | | | | | | " |
| 11 | D 0 1 0 | | | | | | | | | | | | | | | | | | " |
| 12 | D 0 1 1 | | | | | | | | | | | | | | | | | | " |
| 13 | D 0 1 8 | | | | | | | | | | | | | | | | | | " |
| 14 | D 0 1 9 | | | | | | | | | | | | | | | | | | " |
| 15 | D 0 2 1 | | | | | | | | | | | | | | | | | | " |
| 16 | D 0 2 2 | | | | | | | | | | | | | | | | | | " |
| 17 | D 0 2 3 | | | | | | | | | | | | | | | | | | " |
| 18 | D 0 2 4 | | | | | | | | | | | | | | | | | | " |
| 19 | D 0 2 5 | | | | | | | | | | | | | | | | | | " |
| 20 | D 0 2 6 | | | | | | | | | | | | | | | | | | " |
| 21 | D 0 2 7 | | | | | | | | | | | | | | | | | | " |
| 22 | D 0 2 8 | | | | | | | | | | | | | | | | | | " |
| 23 | D 0 2 9 | | | | | | | | | | | | | | | | | | " |
| 24 | D 0 3 0 | | | | | | | | | | | | | | | | | | " |
| 25 | D 0 3 2 | | | | | | | | | | | | | | | | | | " |
| 26 | D 0 3 3 | | | | | | | | | | | | | | | | | | " |
| 27 | D 0 3 4 | | | | | | | | | | | | | | | | | | " |
| 28 | D 0 3 5 | | | | | | | | | | | | | | | | | | " |
| 29 | D 0 3 6 | | | | | | | | | | | | | | | | | | " |
| 30 | D 0 3 7 | | | | | | | | | | | | | | | | | | " |
| 31 | D 0 3 8 | | | | | | | | | | | | | | | | | | " |
| 32 | D 0 3 9 | | | | | | | | | | | | | | | | | | " |
| 33 | D 0 4 0 | | | | | | | | | | | | | | | | | | " |

| | |
|-----------------------------------|---|
| EPA ID Number (Enter from page 1) | Secondary ID Number (Enter from page 1) |
| N M D 9 8 0 6 9 3 8 4 9 | |

XIV. Description of Hazardous Wastes (Continued; use additional sheets as necessary)

| Line Number | A. EPA Hazardous Waste No. (Enter code) | B. Estimated Annual Quantity of Waste | C. Unit of Measure (Enter code) | D. PROCESSES | |
|-------------|---|---------------------------------------|---------------------------------|--------------------------------|--|
| | | | | (1) PROCESS CODES (Enter code) | (2) PROCESS DESCRIPTION (If a code is not entered in D(1)) |
| 1 | D 0 4 1 | | | | Included with Above |
| 2 | D 0 4 2 | | | | " |
| 3 | D 0 4 3 | | | | " |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
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| 29 | | | | | |
| 30 | | | | | |
| 31 | | | | | |
| 32 | | | | | |
| 33 | | | | | |

EPA ID Number (Enter from page 1)

NM D 9 8 0 6 9 8 8 4 9

Secondary ID Number (Enter from page 1)

XV. Map

Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

XVI. Facility Drawing

All existing facilities must include a scale drawing of the facility (See instructions for more detail).

XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

XVIII. Certification(s)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner Signature

X

Name and Official Title (Type or print)

J. D. KINSEY, President, Comet Corp. RAS-1322

Date Signed

7/13/02

Owner Signature

Date Signed

Name and Official Title (Type or print)

Operator Signature

Name and Official Title (Type or print)

Operator Signature

Date Signed

7/12/02

Date Signed

Name and Official Title (Type or print)

XIX. Comments

Note: Mail completed form to the appropriate EPA Regional or State Office. (Refer to instructions for more information)

New Mexico Environment Department
September 2003

Safety-Kleen Systems, Inc. Farmington, NM, Service Center
Facility Operating Permit
RCRA Permit No. NMD980698849

ATTACHMENT 3
WASTE ANALYSIS PLAN

ATTACHMENT 3 WASTE ANALYSIS PLAN

3.1 INTRODUCTION

The Waste Analysis Plan (WAP) was provided to the New Mexico Environment Department by Safety-Kleen Systems Inc., (Safety-Kleen, Facility) in accordance with the requirements of the New Mexico Hazardous Waste Management Regulations, 20.4.1.900 NMAC (incorporating 40 CFR 270.14(b)(2) and (3)) and Permit Condition 2.5.

The Facility shall store only wastes included in Part A of the Permit Application for the storage facility hazardous waste permit and not otherwise prohibited by the Permit. Safety-Kleen will not store any hazardous waste for more than one year.

Annual Waste Characterization data for the waste streams are located in Attachment 3-1. These waste streams are characterized annually as described in the "Statistical Analysis of Annual Waste Characterization Data", attached and incorporated herein by reference. The testing and sampling methodology is as described in Section 3.5. The data generated in this process is used to assign waste codes, if any, for each waste stream. The data generated in the annual recharacterization (AR) is also used to assist recycle centers in recycling or treating the waste streams. Recycle centers also rely on their own waste analysis plans to generate data to recycle materials and or dispose of waste. If while providing service to a customer if there is suspicion that the waste does not meet the acceptance criteria, the waste will not be picked up and the customer must provide information explaining what is in the waste and how the waste was adulterated.

Providing service to Safety-Kleen customers is dependent on a review of the customer business. If the business is a typical generator of that waste stream (for example, a garage generating parts washer waste), then limited review is performed. If the business is not a typical generator of that waste stream or if the business has other processes on site, a more detailed review of the business is performed and a certification from the customer is required stating the waste will be as described without adulterants. For example, laboratory analysis of that customer's waste may be required.

In this AR process, regulated hazardous constituents and reasonably expected underlying hazardous constituents (UHC)s are also discovered. Underlying Hazardous Constituents discovered in the AR shall be assumed to be expected throughout the waste stream. Safety-Kleen's Underlying Hazardous Constituents for

current year are contained in Attachment 3-1. The applicable constituent concentration or technology based treatment standards for the wastes and/or individual hazardous constituents will be identified, if required by regulation, on the Land Disposal Regulation (LDR) form generated from this data, an example of which is provided in Attachment 3-2. The LDRs generated in this process also identify whether the waste must be treated before being land disposed when required by regulation.

Annual recharacterization data is also used to update subpart BB and Subpart CC compliance plans. It is anticipated that minor changes in the waste streams are unlikely to significantly change in air emissions.

Recycle centers shall test every shipment of waste for PCBs. If a shipment is discovered to contain PCBs, the source of the PCBs is traced and appropriate 40 CFR 761 requirements are implemented. Any equipment contaminated by PCBs is removed from service decontaminated cleaned before being put into service.

The Safety-Kleen transportation department is responsible for selecting packaging for Safety-Kleen waste streams, in addition to their responsibility for company compliance with Federal, State, and Local transportation regulations and rules. The transportation department has selected packaging based on past waste recharacterizations and continues to review AR and other data to maintain compliance with material packaging requirements.

The Waste Analysis Plan also provides information about how Safety-Kleen plans to accept, manage, and store hazardous wastes at their Farmington, New Mexico, Service Center (Facility) in order to meet the requirements of the New Mexico Hazardous Waste Management Regulations 20.4.1 NMAC (incorporating 40 CFR 260 through 40 CFR 270). The WAP shall be included in the operating record that Safety-Kleen shall keep on-site in the Administration Office. The wastes that Safety-Kleen shall be accepting for storage and subsequent transfer to a Safety-Kleen recycling facility or a contract re-claimer are listed in Permit Attachment 2, *Authorized Wastes and Part A Application*.

Table 3-1

Waste Analysis Plan, Abstract

| Waste Description | EPA Hazardous Waste Numbers | Capacity ¹ | Annual Amount ² |
|---------------------------|-------------------------------|-----------------------|----------------------------|
| Spent Solvents | D001 ³ | 12,000 | 50,000 |
| Bottom Sediment from Tank | D001 ³ | N/A | 2,000 |
| Spent Immersion Cleaner | D001 ³ | 4,464 | 3,000 |
| Dry Cleaning Waste | D001, F002 ³ | 4,464 | 6,000 |
| Paint Waste | F003, F005, D001 ³ | 4,464 | |
| Photo Chemical Wastes | D011 | 4,464 | |

Notes: 1. The facility capacity is in gallons.

2. The annual amount is in gallons.

3. May also include D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043

The total amount of drummed waste shall not exceed 3,820 gallons in the Container Storage Unit at any one time.

3.2 DESCRIPTION OF WASTES

Several types of waste result from the servicing of Safety-Kleen customers and the maintenance of the service center. It should be noted that the solvents managed at this facility are incompatible with strong oxidizers and reactive metals, none of which are present in the containers, container storage area, or the concrete sealant. The solvents are also compatible with one another. Analytical data for the wastes and specifications for the products are located in Attachments 3-1 and 3-2. Qualitative descriptions of the acceptable wastes are identified in Sections 3.3.1 through 3.3.4.

3.2.1 Wastes Resulting from the Parts Washer Service

Used spent solvents from parts washers are accumulated in the 12,000-gallon above ground spent solvent storage tank via the return and fill station. Containers of used material are poured into the drum washer/dumpster at the return and fill station, which in turn empties into the 12,000-gallon spent solvent above ground storage tank. This waste handling method results in several types of solvent waste as described below.

3.2.1.a Used Solvent

The used solvent (Stoddard Solvent) is removed from the tank by a tanker truck on a scheduled basis. Approximately 5,000 gallons are removed monthly. This waste is ignitable (D001) and may exhibit toxicity characteristics of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043.

3.2.1.b Bottom Sediment in the Tank

Approximately once every two years, it is necessary to remove sediment and other heavy material from the bottom of the tank. A Safety-Kleen vacuum truck is generally used for this purpose. The sediment is ignitable (D001) and may exhibit the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043.

3.2.1.c Dumpster Sediment

Sediment may also accumulate in the drum washers in the return/fill station. The sediment is manually removed and placed in containers. The dumpster sediment is representative of the waste codes described in items 3.2.1.a and 3.2.1.b.

The sediment from the bottom of the drum washer/dumpster in the return and fill station is removed manually by a shovel, containerized and stored in the CSU. The containers are properly labeled indicating contents. The chemical composition of this waste is similar to that of the tank bottom sediment and therefore carries the same EPA hazardous waste codes.

3.2.1.d Immersion Cleaner

Immersion cleaner is a different type of solvent that is not placed in the aboveground storage tank. Containers of immersion cleaner typically remain in the drum in which it was originally

used until it is received at the recycle center. Drums are placed in the drum storage area of the warehouse and are stacked no more than two-high in the drum storage area of the warehouse.

The immersion cleaner is a non-halogenated mixture and may exhibit toxicity characteristics of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043.

3.2.1.e Used Aqueous Parts Cleaner Solvents

This waste may be bulked at the service center into containers that meet DOT specifications or may be co-mingled with the other solvent into the used solvent tank. It may be toxic using the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043.

3.2.2 Wastes Resulting from the Dry Cleaner Service

Dry cleaning wastes consist of spent filter cartridges, separator water powder residue from diatomaceous or other powder filter systems and still bottoms. These wastes are packaged on the customer's premises in DOT approved containers (typically black 16-, 30-, or split 30-gallon containers). The containers are then palletized, stacked two high and placed in the CSU.

Approximately 90% of the dry cleaning solvent used is perchloroethylene (tetrachloroethylene) (F002, and D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043) and 5% 1,1,2-trichloro- 1,2,2- trifluoroethane (F002) and may exhibit toxicity characteristics of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043), and 5% is mineral spirits with the waste code of D001. Other types of dry cleaning wastes (e.g. freon) will be managed on a transfer basis only.

3.2.3 Paint Wastes

Paint wastes consist of various lacquer thinners (D001, F003, and F005) and may be toxic as per the characteristic leaching procedure (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043). The wastes are collected in containers which meet DOT requirements at the customer's place of business and containers

are then palletized and stored in an enclosed concrete masonry building (Flammable Storage Building).

3.2.4 Photographic/Imaging Wastes

Some photographic wastes managed by the Facility are not solid wastes per 20.4.1.200 NMAC (incorporating 40 CFR 261.2(c)) because the hazardous constituent is reclaimed. Others are managed under the provisions of 20.4.1.700 NMAC (incorporating 40 CFR 266 Subpart F) relating to recyclable materials utilized for precious metals recovery. Imaging waste typically consists of three waste streams, photo fixer solution, used photo developer, and silver collection canisters. Photo fixer solution is an aqueous solution used to etch photo film during processing and exhibits a toxicity characteristic of D011 (Silver). The photo fixer solution is a hazardous waste and is subject to the requirements of 20.4.1.800 NMAC (incorporating 40 CFR 268). Safety-Kleen is able to recover the silver from this solution. Used photo developer is an aqueous solution that exhibits no hazardous waste characteristics but shall not be allowed to discharge into public wastewater treatment systems in some communities. The silver collection canisters are sent to a recycle center for reclamation. These canisters do not meet the definition of a hazardous waste in accordance with 20.4.1.100 NMAC (incorporating 40 CFR 260.30(c)), and are managed as a non-regulated material.

3.3 QUALITY CONTROL PROCEDURES

The used solvents are the primary feedstocks for the generation of Safety-Kleen solvent products. As a result, quality control of the used solvents is necessary to ensure that reclamation occurs in the safest and most efficient manner possible. The Farmington service center collects spent solvent from approximately 400 customers, most of whom are small quantity generators, and containers of recoverable solvents which are returned to the service center each year for shipment to a reclaimer. With such large numbers of waste generators and waste shipments, performing detailed analyses at the service center is economically and logistically infeasible.

All the materials collected at the service center are managed at all times in a closed loop system and are usually collected from a company with a single process. The composition and quality of these materials are known and Safety-Kleen's operating experiences have shown that the collected materials rarely deviate from company specifications. As an additional safeguard, Safety-Kleen personnel are instructed to inspect all materials before returning them to the service centers as described in

Section 3.3. This mode of operation has been proven to safeguard the recycling process and maintain a quality product.

However, in accordance with 20.4.1.500 NMAC (incorporating 40 CFR (a)(3)(i)), Safety-Kleen will perform physical and chemical analysis of a waste stream when it is notified or has reason to believe that the process or operation generating the waste has changed, or when the result of inspection indicates that the waste collected does not match that designated. It is Safety-Kleen's practice that suspected non-conforming material must not be accepted until a full analysis has been conducted. If a container with questionable contents is returned to the service center, a sample will be taken and analysis will be performed at the recycling center, Safety-Kleen Tech Center (Elk Grove Village, Illinois) or other qualified lab according to the procedures outlined in Section 3.4 of this attachment. The Branch Manager will be notified of any contamination that may have occurred.

3.3.1 Quality Control Training

Safety-Kleen trains personnel to verify the physical characteristics of the wastes at several points in the management of the solvent. These procedures are described briefly below.

Safety-Kleen controls the use and management of its solvents by:

1. Limiting the solvents stored to those compatible with one another and their containers;
2. Limiting the uses of each type of solvent (example, dry cleaning waste is only collected from dry cleaner shops);
3. Determining the customer's type of business (i.e., the SIC code is recorded) and the purpose for which the customer will use the machine;
4. Training customers to use the machines properly;
5. Training employees to inspect the physical characteristics of used solvent and determine whether it is acceptable;
6. When waste is collected from a customer, indicate on the service document whether the used solvent meets Safety-Kleen's acceptance criteria;
7. Marking each container with the customer's name, address, and EPA I.D. number (if available). This

information remains on containerized waste until it is accepted at the reclamation facility;

8. Keeping a record of each incoming and outgoing shipment in the operating log; and

Safety-Kleen's customers sign a service document containing the following information:

1. The name, address and EPA I.D. number of the facility to which the waste is being shipped;
2. The customer's name, address and EPA I.D. number (if available); and
3. The description and amount of Safety-Kleen solvent waste generated.

In addition, each incoming and outgoing shipment shall be recorded in the Facility's Operating Log.

If a waste is rejected at the time of service, the customer will be given a choice as to whether he/she will dispose of the waste or require Safety-Kleen's assistance. If they request Safety-Kleen's assistance, a sample will be drawn using a Coliwasa tube or similar sampling device to ensure representative samples. The sample will be analyzed for flash point and volatile organic compounds. If this analysis does not adequately define the constituents, additional analyses will be performed as necessary (e.g., semi-volatile organic compounds, PCBs, etc.).

The laboratory sends waste analyses results to the service center. If through the additional analysis the waste is determined to be acceptable at the branch, it will be relabeled, manifested and then managed with the other wastes. If it is determined through the additional analysis to not be acceptable, the waste will either be: (a) managed at the Service Center on a 10 day transfer basis and manifested to a properly permitted reclamation or disposal facility, or (b) manifested and shipped directly to a properly permitted reclamation or disposal facility. The analytical results from the additional characterization analysis will be used to appropriately manage the waste. The Branch Manager has the right to refuse any further service to a business, which has returned waste that does not meet acceptable criteria.

3.3.2 Qualitative Waste Analysis

3.3.2.a General Inspection Procedures

See Attachment 3-3 for inspection training details.

1. Safety-Kleen visually inspects each drum of waste when it is collected at the customer's location. Safety-Kleen examines the waste for volume, appearance, consistency and odor and is intimately familiar with the characteristics of the waste it receives. Based on the known waste characteristics, Safety-Kleen has established the specific acceptance criteria set forth below, to be used by Safety-Kleen personnel in their visual inspections. These inspection procedures allow Safety-Kleen to ensure that the waste being picked up meets appropriate acceptance criteria;
2. If a particular drum of waste does not meet the acceptance criteria, the Safety-Kleen service representative will either (1) sample the waste for testing at a Safety-Kleen laboratory to determine whether the waste has been contaminated; or (2) reject the waste. In the event the waste is not sampled, Safety-Kleen will notify the generator's State Agency that is authorized to implement the RCRA hazardous waste management program (or EPA if the RCRA program has not been delegated to the State);
3. If the waste is sampled for further analysis, the service representative will collect a sample, then seal the drum and label it as hazardous waste. The drum is left with the customer pending the results of the laboratory tests. The laboratory testing initially involves analyzing the suspect waste for flash-point and the presence of volatile organic compounds. Pending those results, additional constituents may also be analyzed. The costs of any sampling and testing performed as a result of the waste failing to meet the acceptance criteria, will be borne by the customer;
4. If the laboratory analysis reveals that the sampled waste is not contaminated, Safety-Kleen will accept the waste from the customer. If the laboratory confirms that the waste is contaminated, the generator will be responsible for securing an alternate means of disposal or they may contract with Safety-Kleen to handle the waste on a 10-day transfer basis.

3.3.2.b Waste Specific Criteria

The following is a description of the specific acceptance criteria for each waste stream:

3.3.2.b.i Used Solvent

1. The acceptance criteria for determining by visual inspection whether used solvent has been contaminated are volume, odor and color, the most significant of which is volume. If the volume of waste in a given drum exceeds the specified level, the Safety-Kleen service representative will conduct an inquiry of the customer's operation and handling procedures. Contingent on the customer's responses, the solvent may be accepted, a sample of the waste may be collected for laboratory testing as described above, or the waste may be rejected.
2. In addition to the volume criterion, the odor of the used solvent may typically indicate whether the waste has been contaminated. Used solvent has a distinctive odor. The service representatives are expressly instructed not to deliberately sniff the waste. However, if the solvent has been contaminated the service representative may notice a difference in the odor when he services the machine.
3. The used solvent is also visually inspected for its color. Unused solvent typically has a clear or greenish tint. As the solvent is used, it turns brown in color. The more it is used, the darker brown it becomes, until it is almost black. In the case of a print shop, the solvent may be clear, green, brown, black, or many colors. Therefore, if the used solvent does not appear to be the expected color, the service representative will sample the waste for possible contamination as described above, or will reject the waste.

3.3.2.b.ii Immersion Cleaner

1. The criteria for the inspection of used immersion cleaner are volume and color. If the volume of waste exceeds the specified level a sample will be tested for contamination following the procedures described above or the waste will be rejected.
2. Unused immersion cleaner is amber in color. As the solvent is used, it turns brown in color. The more it is used, the darker brown it becomes, until it is almost black. If the used immersion cleaner does not appear to be the expected color, the service representative will either sample the waste for

possible contamination as described above, or reject the drum of waste.

3.3.2.b.iii Dry Cleaner Wastes

Dry cleaner wastes normally consist of used filter cartridges, powder residue, and still bottoms.

1. Used Filter Cartridges:

Used filter cartridges are placed in containers meeting DOT specifications. It is obvious to the service representative whether the items in the drums are filter cartridges. The drums may also contain approximately one inch of liquid, which should either be clear or have a light brownish tint. If the amount of the liquid is greater than approximately one inch or if the liquid is a color other than light brown, the service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

2. Powder Residue:

The criteria for the acceptance of powder residue are consistency and color, the former being the more significant criterion of the two. A drum of powder residue should not contain any liquid. As the name implies, it will be dry or "powdery". If there is any liquid in the drum, the waste will be sampled for contamination in accordance with the procedures described above, or the waste will be rejected.

The powder residue is also inspected for color and should appear to be grayish-black. If the residue is not grayish-black in color, the service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

3.3.2.b.iv Still Bottoms

The criteria for the acceptance of dry cleaning still bottoms are consistency and color. The waste should have a highly viscous, tar-like consistency. If the consistency of the waste is too thin or if there is more than one inch of free liquid in the drum, the waste will be sampled for contamination in accordance with the procedures described above, or will be rejected.

In addition to consistency, the still bottom waste is inspected for color. The waste should appear dark brown or black in color. If the waste is a different color, a service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

3.3.2.b.v Paint Wastes

Safety-Kleen handles both lacquer thinner waste generated from the paint gun cleaning process and paint waste.

1. Lacquer Thinner Waste:

The significant criterion for determining whether lacquer thinner waste will be accepted is volume. The solvent is provided to customers in pails, which meet DOT requirements. The paint gun cleaning machine operates as a closed system where by there should never be a combined volume of more than the expected amount of solvent in the two collection pails. The solvent is pumped from a tube in a left hand pail (facing the machine) through the machine into the right hand pail. The left hand pail starts with clean solvent which will be pumped out as the machine is used to clean the spray guns. If a service representative discovers more than the expected amount of solvent in the two pails, or there is an overfill from the right hand pail, the waste will be sampled for contamination in accordance with the procedures described above, or the waste will be rejected.

2. Paint Waste:

a. Liquid

The significant criterion for the inspection of paint waste is consistency. The waste should contain no more than 30 percent solids. The service representative will insert a COLIWASA or similar sampling device into the drum. The sampling device should glide easily down to the bottom of the drum. The service representative will handle this waste as a Class 3 flammable waste. If there is resistance to the insertion of the glass tube, it is assumed that the level of solids is in excess of 30 percent and the service representative will reject the waste.

The contents of the glass tube are also visually examined for consistency and water content. The

material should be a "free flowing" liquid, but should not contain a significant amount of water. If there is more than approximately 10 inches of water in the 3-foot tube (the water and paint will separate in the tube and thus can be measured) the waste will be rejected.

b. Solid

For waste containing more than 30 percent solids the service representative will handle the waste as a Class 4 flammable waste.

3.3.2.b.vi Photographic/Imaging Waste

Photographic/Imaging waste is collected from facilities where one process is managed and the possibility of cross contamination is minimal. The sales representative inspects the contents of the containers of photographic/imaging waste when the sales representative services the customer. The pH and silver content of the waste is checked at the time of service, and the waste is also inspected visually.

3.4 WASTE ANALYSIS

Analyses performed at the Safety-Kleen recycle centers are undertaken to safeguard the recycling process and to assure a product quality. The following section summarizes the waste analyses practiced at the recycle center for the hazardous materials returned from the Farmington branch. For each waste type stored at the branch, at least the following analyses must be performed annually (annual recharacterization analysis). If a particular waste stream is not managed at the service center during the previous year, no recharacterization analysis is performed. Copies of the results for the annual analyses shall be maintained at the branch office for the life of the permit. A copy of the most recent recharacterization analysis is contained in Attachment 3-1.

3.4.1 Solvents

1. Flash point (must be greater than 90°F)

If the flashpoint is unacceptable, the Farmington Branch Manager will be notified immediately and the load will receive appropriate special handling. If the results are acceptable, the following tests will be performed:

2. Volatile Organic Analysis, using EPA Methods 8015, 8021, 8260, or approved equivalents
3. Physical appearance, including bottom sediment and water content
4. Specific gravity
5. pH
6. Distillation performance

If any of these tests yield unacceptable results or indicate solvent contamination outside the normal range, the Branch Manager will be notified immediately.

In addition to the tests listed above, which will be performed on a representative sample from every load received at the recycle center from the Farmington service center, a full Toxicology Characteristic Leaching Procedure (TCLP) analysis for all 40 constituents, (except for pesticides and herbicides) will be performed at least once each calendar year.

3.4.2 Solvent Tank Bottom Sludge and Free Water

1. Flash point (Must be greater than 90°F)
2. Analysis for content of lead, cadmium, and chromium
3. pH

As described above for solvent, a full TCLP analysis (except for the pesticides and herbicides) will be performed on a representative sample at least once each calendar year.

3.4.3 Immersion Cleaner Solvent

Containers of waste immersion cleaner are typically characterized at the recycle center using the following criteria:

1. Flash point
2. Physical appearance
3. Specific gravity
4. Percent water
5. Volatile Organic Analysis (using EPA methods 8015, 8021, 8260 or approved equivalents)

If any of these tests yield unacceptable results or indicate solvent contamination outside the normal range, the Branch Manager will be notified immediately. As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of immersion cleaner at least once each calendar year.

3.4.4 Dry Cleaning Solvent/Still Bottoms

1. Physical appearance
2. Volatile Organic Analysis for Perchloroethylene (using EPA methods 8015, 8021, 8260 or approved equivalents)
3. Specific gravity

If any of these tests yield unacceptable results or indicate contamination outside the normal range, the Branch Manager will be notified immediately.

As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of dry cleaning waste at least once each calendar year.

3.4.5 Paint Waste

Paint wastes are generally characterized at the recycle center using the following criteria:

1. Metals
2. Flash points
3. Physical appearance
4. Specific gravity
5. Percent water
6. Volatile organic analysis (using EPA methods 8015, 8021, 8260, or approved equivalents)

As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of paint waste at least once each calendar year.

3.5 WASTE ANALYSIS PLAN UPDATE

The waste analysis plan will be modified when a new waste product is collected or when sampling and material management methods change. Revision of the plan is typically the responsibility of the Safety-Kleen corporate or regional compliance offices. Any revision to this plan will be in accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.42)

Tables 3-2 through 3-5 summarize the waste analysis plan practiced at the recycle centers for the hazardous waste materials returned from the Farmington Service Center.

Table 3-2

Parameters And Rationale For Hazardous Waste Analysis

| Hazardous Waste | Parameter* | Rationale |
|-------------------------|-------------------------------------|--|
| 1. Spent Solvents | Flash Point | Ignitable Characteristic (D001) |
| | TCLP (preparation method) | Contains components which exceed the limits listed in 40 CFR 261.24 |
| | Hazardous Constituent Concentration | Determination of Waste's LDR Status as required in 20.4.1.800 NMAC (incorporating 40 CFR 268.40) |
| 2. Solvent Tank Bottoms | Same as number 1 | Same as number 1 |
| | Hazardous Constituent Concentration | Determination of Waste's LDR Status as required in 20.4.1.800 NMAC (incorporating 40 CFR 268.40) |

* Earlier sample analyses indicated the parameters listed are the only ones of concern.

| | | |
|---------------------------|---|---|
| 3. Used Immersion Cleaner | TCLP (preparation method) | Contains components which exceed the limits listed in 40 CFR 261.24 |
| | Hazardous Constituent Concentration | Determination of Waste's LDR Status as required in 20.4.1.800 NMAC (incorporating 40 CFR 268.40) |
| 4. Dry Cleaning Wastes | Perchloroethylene, 1,1,2-trichloro-1,,2,2-trifluoroethane TCLP Flash Point | Contains this ingredient (F002) Contains components which exceed the limits listed in 40 CFR 261.24 Ignitable Characteristic (D001) |
| | Hazardous Constituent Concentration | Determination of Waste's LDR Status |

Table 3-3

Parameters And Test Methods

| Parameter | Test Method | Reference |
|---|---|--|
| Flash Point | Setaflash closed cup tester | U.S. EPA SW 846, Third Ed., Method 1020 (ASTM Method D327-78) or an equivalent method. |
| Hydrocarbons, Volatile and Semivolatile Organic Compounds LDR Constituents | Gas Chromatography (GC) and/or Mass Spectroscopy | U.S. EPA Methods 8010, 8015, 8020, 8120, 8240, and/or 8270 or equivalent methods. |
| Toxicity Characteristics | TCLP (preparation method), followed by 1310 or (3010, 7760) then 6010 and 1310 then 7470. | 40 CFR 261, Appendix II; 55 FR 11798 (March 29, 1990) |

Table 3-4

Methods To Sample Hazardous Wastes

| Hazardous Waste | Reference for Sampling | Description of Sampling Method | Sampler |
|----------------------------|--|---|---|
| 1. Spent Solvents | Sampling a tank "Samples & Sampling Procedures for Hazardous Waste Streams" EPA - 600/2-80-018 and Safety-Kleen training, ET-143, "Sampling Hazardous Materials and Wastes". | Test Methods for the Evaluation of Solid Waste Physical/Chemical Methods, SW846, U.S. EPA Chapter One, et. seq. And Safety-Kleen Training ET-143, "Sampling Hazardous Materials and Wastes" | Coliwas Tube, Weighted Bottle Sampler, Pond Sampler, Trier, Large Trier, Auger, Grain Thief, or Scoop as appropriate. |
| 2. Solvent Tank Bottoms | Same as number 1 | Same as number 1 | Same as number 1 |
| 3. Spent Immersion Cleaner | Same as number 1 | Same as number 1 | Same as number 1 |
| 4. Dry Cleaning Wastes | Same as number 1 | Same as number 1 | Same as number 1 |

Table 3-5

Frequency of Analysis

| Hazardous Waste | Analysis* | Frequency |
|---------------------------|---|-------------------|
| 1. Spent Solvents | Flash Point | At least annually |
| | TCLP | At least annually |
| 2. Solvent Tank Bottoms | Flash Point | At least annually |
| | TCLP | At least annually |
| 3. Used Immersion Cleaner | TCLP | At least annually |
| 4. Dry Cleaning Wastes | Perchloroethylene, 1,1,2-trichloro- 1,2,2-trifluoroethane | At least annually |
| | TCLP | At least annually |
| | Flash Point | At least annually |

3.6 LAND BAN NOTIFICATION/CERTIFICATION FORMS

The Permittee shall follow all requirements of Section 2.4 of this Permit.

In accordance with 20.4.1.800 NMAC (incorporating 40 CFR 268.7(a)(2)), Safety-Kleen shall provide a one time written notice for wastes banned for land disposal with the initial shipment. No further notification is necessary unless the waste or the Facility changes. Safety-Kleen shall provide the written notice for wastes banned from landfills, in accordance with 20.4.1.800 NMAC (incorporating 40 CFR 268), as follows:

1. Printing the Notice language on manifests - such as for core-business customers to branch shipments; or
2. Special forms for each regularly handled waste types (e.g., parts washer solvents, immersion cleaner, dry cleaning wastes, etc); or
3. A general form that must be completed for unique or non-standard waste streams. These wastes will only be handled on a transfer basis in accordance with 20.4.1.400 NMAC (incorporating 40 CFR 263.12).

The notice is required paperwork for all Safety-Kleen waste types. Shipments lacking the proper notice shall not be accepted by any Safety-Kleen facility. When a shipment with the proper notice is received, the notice is kept in the files of the receiving facility, or designated facility, as defined in 20.4.1.100 NMAC (incorporating 40 CFR 260.10), with the manifest or with the pre-print if a manifest is not used.

3.7 OPERATING LOG RECORD

Safety-Kleen shall maintain a written operating record on-site of all manifested wastes that enter the Facility as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.73 (a)). The requirements of this Operating Log are detailed in Attachment 8, *Manifesting, Reporting, and Record*.

3.8 WASTE DETERMINATION FOR SUBPART BB AND CC COMPLIANCE

For purposes of waste determination, this Facility utilizes knowledge of the wastes described in Section 3.2, 3.3, and 3.4. For those hazardous wastes, which are managed on a transfer basis, the Subpart CC regulation does not apply. However, the Permittee may use knowledge of the waste based on information included in manifests, shipping papers, or waste certification

notices to confirm waste determination for the generator or the ultimate receiving facility.

Based upon this knowledge, it has been determined that all wastes managed in tanks or containers at this facility may display an average volatile organic concentration of greater than 500 ppmw at the point of waste origination. Documentation of this knowledge is provided in Attachment 3-1 (waste characterization analytical results), as required in 20.4.1.500 NMAC (incorporating 40 CFR 264.1063(d) and 264.1083). Therefore, hazardous wastes managed in tanks or containers at this facility shall be managed in accordance with the applicable Subpart BB and Subpart CC standards.

New Mexico Environment Department
September 2003

Safety-Kleen Systems, Inc. Farmington, NM, Service Center
Facility Operating Permit
RCRA Permit No. NMD980698849

ATTACHMENT 3-1

ANNUAL WASTE RECHARACTERIZATION

I T
2003 ANNUAL RECHARACTERIZATION WASTE CODES

National Waste Code Assignment

| WASTE STREAMS | WASTE CODE CHANGES - NATIONAL | | | Utah | Minnesota | Texas | | California |
|---|---|--|---|--------------------------------------|-----------------------------|----------------------------|---------------------------------|---------------------------|
| General Description | 2002 Federal Waste Codes (From 2001 Data) | 2003 Federal Waste Codes (From 2002 Data) | Changes from 2002 to 2003 | UT 2003 FWC | MN 2003 FWC | TX Waste Code (instate) | TX Waste Code (out of state) | 2003 CA Waste Codes |
| Aqueous Brake Cleaner | D039 | D039 | No Change | Nat'l | Nat'l | 0839102H | OUTS102H | 134 |
| Branch Contaminated Debris | F001, F002, F003, F005, D001, D006, D007, D008, D011, D018, D022, D027, D028, D035, D039, D040 | F001, F002, F003, F005, D001, D006, D007, D008, D011, D018, D022, D027, D028, D035, D036, D038, D039, D040 | Add D036 (nitrobenzene), D038 (pyridine) | Nat'l | Nat'l | 1827409H 1736319H | OUTS409H OUTS319H | 741 (L) 751 (S) |
| Immersion Cleaner (IC 699) | D006, D008, D018, D027, D039, D040 | D006, D008, D018, D027, D038, D039, D040 | Add D038 (pyridine) | Nat'l + D007 | Nat'l | 0566203H | OUTS203H | 741 |
| Parts Washer Solvent 105 Recycled | D001, D018, D039, D040 | D001, D018, D039, D040 | No Change | Nat'l + D008 | Nat'l + D008 | 0501203H | OUTS203H | 741 |
| Parts Washer Solvents (Bulked) / Combination of 105 and 150 (Aqueous, where applicable) | D001, D018, D039, D040 | D001, D018, D039, D040 | No Change | Nat'l | Nat'l + D008 | 0501203H | OUTS203H | 741 |
| Parts Washer Solvent Sludge/Dumpster Mud | D001, D039 | D001, D039 | No Change | Nat'l + D006, D008, D018, D040 | Nat'l | 0527695H | OUTS695H | 741 |
| Parts Washer Solvent Tank Bottoms (bulk) ¹ | D039 | D039, D040 | Add D040 (Trichloroethylene) | Nat'l | Nat'l | 0527695H | OUTS695H | 741 |
| Parts Washer Solvent 150 | D039 | D039 | No Change | Nat'l | Nat'l + D008, D018, D040 | 0501203H | OUTS203H | 213 |
| Paint Gun Cleaner (SK) | F005, F003, D001, D018, D035, D039, D040 | F003, F005, D001, D018, D035, D038, D039, D040 | Add D038 (pyridine) | Nat'l + D007, D008 | Nat'l | 0523211H | OUTS211H | 212 |
| Paint Waste Other | F005, F003, D001, D018, D035, D039, D040 | F003, F005, D001, D018, D035, D036, D038, D039, D040 | Add D036 (nitrobenzene), D038 (pyridine) | Nat'l + D005, D007, D008 | Nat'l | 0523211H | OUTS211H | 212 |
| Dry Cleaner (Perc) Bottoms | F002, D007, D039, D040 | F002, D007, D039, D040 | No Change | Nat'l | Nat'l | 0506609H | OUTS609H | 741 |
| Dry Cleaner (Perc) Filter Powder | F002, D039 | F002, D039 | No Change | Nat'l | Nat'l | 0906310H | OUTS310H | 751 |
| Dry Cleaning Naphtha (Mineral Spirits) | D001, D039 | D001, D039 | No Change | Nat'l | Nat'l | 0569609H | OUTS609H | 741 |

Aqueous Brake Cleaner

| | | | | | Sample Number | | | | | | | |
|-----------------------|-------------------|--|------------|-----------|----------------|----------------|----------------|---------|---------|---------|---------|--------------|
| | | | | | 2014670 | C2J300280001 | C2J300280001X | 2054681 | 2058150 | 2058153 | 2095616 | C2J110184001 |
| Year | | | | | 2000 | 2002 | 2002 | 2000 | 2000 | 2000 | 2001 | 2002 |
| Analysis | Number of Samples | 90 UCL for the 50 th Percentile | Waste Code | Reg Limit | Albuquerque,NM | Albuquerque,NM | Albuquerque,NM | Avon,NY | Avon,NY | Avon,NY | Avon,NY | Avon,NY |
| BNA | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | 68 | ND | D041 | 400 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <0.50 | <5.0 | <5.0 |
| 2,4,6-Trichlorophenol | 68 | ND | D042 | 2 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.50 | <2.0 | <2.0 |
| 2,4-Dinitrotoluene | 68 | ND | D030 | 0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.10 | <0.13 | <0.13 |
| 2-Methylphenol | 68 | ND | D023 | 200 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <50 | <5.0 | <5.0 |
| 3+4-Methylphenol | 69 | ND | D024/25 | 200 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <50 | <5.0 | <5.0 |
| Hexachlorobenzene | 68 | ND | D032 | 0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.10 | <0.13 | <0.13 |
| Hexachlorobutadiene | 68 | ND | D033 | 0.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| Hexachloroethane | 68 | ND | D034 | 3 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Nitrobenzene | 68 | ND | D036 | 2 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.50 | <0.40 | <0.40 |
| Pentachlorophenol | 68 | ND | D037 | 100 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <0.50 | <5.0 | <5.0 |
| Pyridine | 68 | ND | D038 | 5 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.54 | <1.0 | <1.0 |
| METALS | | | | | | | | | | | | |
| Arsenic | 68 | ND | D004 | 5 | <5.00 | <5.00 | <5.00 | <5.00 | <5.00 | <5.00 | <5.00 | <5.00 |
| Barium | 68 | 3.2 | D005 | 100 | 2.33 | 0.926 | 12.7 | 1.79 | <0.500 | 6.04 | 1.63 | 0.528 |
| Cadmium | 68 | ND | D006 | 1 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 |
| Chromium | 68 | ND | D007 | 5 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 |
| Lead | 68 | ND | D008 | 5 | <4.00 | <4.00 | <4.00 | <4.00 | <4.00 | <4.00 | <4.00 | <4.00 |
| Mercury | 68 | ND | D009 | 0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.100 | <0.10 | <0.10 |
| Selenium | 68 | ND | D010 | 1 | <0.45 | <0.45 | <0.45 | <0.45 | <0.45 | <0.45 | <1.00 | <0.45 |
| Silver | 68 | ND | D011 | 5 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 | <0.500 |
| Misc | | | | | | | | | | | | |
| Flash Point | 65 | >200 | D001 | 140 | >200 | >200 | 69 | >200 | >200 | >200 | >200 | >200 |
| pH | 73 | 9.93 | D002 | 2-12.5 | 10.6 | 10.12 | 8.6 | 9.2 | 8.32 | 11.3 | 9.42 | 9.93 |
| VOA | | | | | | | | | | | | |
| 1,1-Dichloroethylene | 68 | ND | D029 | 0.7 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <2.0 |
| 1,2-Dichloroethane | 68 | ND | D028 | 0.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <2.0 |
| 1,4-Dichlorobenzene | 68 | ND | D027 | 7.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <2.0 |
| Benzene | 68 | ND | D018 | 0.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <2.0 |
| Carbon Tetrachloride | 68 | ND | D019 | 0.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <2.0 |
| Chlorobenzene | 68 | ND | D021 | 100 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <2.0 |
| Chloroform | 68 | ND | D022 | 6 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <2.0 |
| Methyl Ethyl Ketone | 68 | ND | D035 | 200 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <5.0 | <0.50 | <5.0 |
| Tetrachloroethylene | 68 | 13.81 | D039 | 0.7 | <0.20 | 1.43 | 1.776 | 2.743 | <0.20 | 93.85 | 9.002 | 34.82 |
| Trichloroethylene | 68 | 0.2 | D040 | 0.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <2.0 | <0.20 | <2.0 |
| Vinyl Chloride | 68 | ND | D043 | 0.2 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <1.4 | <0.14 | <1.4 |



GARY E. JOHNSON
GOVERNOR

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JOHN R. D'ANTONIO, Jr.
SECRETARY

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

November 15, 2002

Mr. David Ashley
EHS Manager
Safety-Kleen Corp.
6625 W. Frye Road
Chandler, Arizona 85226

RE: NOTICE OF DEFICIENCY (NOD)
SAFETY-KLEEN SYSTEMS, INC. STORAGE FACILITY RCRA PERMIT
APPLICATION, FARMINGTON FACILITY EPA ID NMD980698849
HWB-SKFA-00-001 AND
SAFETY-KLEEN SYSTEMS, INC. STORAGE FACILITY RCRA PERMIT
APPLICATION, ALBUQUERQUE FACILITY EPA ID NMD000804294
HWB-SKAL-02-001

Dear Mr. Ashley:

After substantial review of the Safety-Kleen Farmington's (SKFA), October 4, 2000 permit application, Attachment A, *Waste Analysis Plan* (WAP) and the 2000 permit application Part A, Section 1.0, Attachments C, D and E, the existing SKFA operating permit dated April 4, 1991, and the August 20, 2002 draft permit wastes characterization requirements, NMED has made a determination that additional information is required prior to granting administrative completeness pursuant to 20.4.2.200 NMAC (A) (3) (a) and (b). The NMED comments are attached.

Please respond to this Notice of Deficiency within sixty (60) days of receipt of this letter.

Should you have any questions please contact Mr. Steve Pullen of my staff at (505) 428-2544.

Mr. David Ashley
November 15, 2002
Page 2

Sincerely,



James Bearzi
Chief
Hazardous Waste Bureau

cc: John Kieling, NMED HWB
Will Moats, NMED HWB
Robert Warder, PE, NMED HWB
Laurie King, EPA Region 6 (6PD-N)

File: Red SKFA 00-001, Reading File
Red SKAL 02-001, Reading File

**NOTICE OF DEFICIENCY COMMENTS
SAFETY KLEEN – FARMINGTON and ALBUQUERQUE**

Regulatory citations in these comments only reference the applicable Code of Federal Regulations (CFR) requirements without including the associated New Mexico regulation for brevity.

NMED expects a response to each of these comments and altered permit application language where appropriate. The responses to these comments should be included in both the Safety-Kleen Albuquerque (SKAL) and SKFA permit application waste analysis plans since the WAP's are essentially identical and by doing so, will prevent an additional NOD being submitted for the SKAL facility.

General SKFA WAP Comments:

1. The WAP fails to identify the specific waste characterization regulations that must be addressed before wastes can be managed at the facility. NMED requires that Safety-Kleen address, at a minimum, the data quality objectives (DQOs) identified at Appendix I at the back of these comments. All appropriate DQOs are to be identified in the Introduction portion of the WAP. The WAP must also be augmented to include a discussion of how Safety-Kleen personnel will perform a QA/QC analysis to ensure that all waste characterization has met the DQOs.
2. The Safety-Kleen Farmington facility permit application fails to address all applicable land disposal restriction (LDR) regulatory requirements. Safety-Kleen must specify in the WAP how it will both accomplish these activities, and document these determinations as required by 20.4.1.800 NMAC (incorporating 40 CFR 268.7 (a) (6)), 20.4.1.300 NMAC (incorporating 40 CFR 262.10 (h) and 40 CFR 262.40 (c)). Safety-Kleen must specifically commit to ensuring that all hazardous wastes stored at the facility are characterized for all applicable LDR notification requirements as identified below;
 - a. Identify all hazardous constituents in prohibited hazardous wastes requiring treatment as required by 20.4.1.800 NMAC (incorporating 40 CFR 268.7 (a), 40 CFR 268.40 (a) (1) and (2)), including both the constituents associated with each waste listed in 40 CFR 268.40 as "regulated hazardous constituents", and all underlying hazardous constituents (UHCs) in characteristic hazardous wastes as required by 40 CFR 268.9 (a);
 - b. Identify applicable "waste code subcategories" as identified in Column 2 of the "Treatment Standards for Hazardous Wastes" table located in 40 CFR 268.40, as required by 40 CFR 268.7 (a), and as referenced in the Required Information

Column, Item No. 4, of the "Generator Paperwork Requirements Table" located in 40 CFR 268.7 (a);

- c. Identify the waste's applicable "treatability group" (i.e., wastewater or non-wastewater) as identified in Column 2 of the "Treatment Standards for Hazardous Wastes" table located in 40 CFR 268.40, and the "Universal Treatment Standards" table located in 40 CFR 268.48, and as required by 40 CFR 268.7 (a), as referenced in Column 1, Item No. 4, of the "Generator Paperwork Requirements" located in 40 CFR 268.7 (a), and as defined in 40 CFR 268.2 (d) and (f); and
- d. Identify whether the waste must be treated before it can be land disposed as required by 40 CFR 268.7 (a). To accomplish this, Safety-Kleen shall identify the applicable constituent concentration or technology based treatment standards for the wastes and/or the individual hazardous constituents as identified in the "Treatment Standards for Hazardous Wastes" table located in 40 CFR 268.40.

These requirements apply to all wastes managed at Safety-Kleen regardless of how long the wastes are stored, including wastes stored under a transfer basis.

3. NMED can find no commitment in the application to store prohibited wastes for less than the one-year as required by 40 CFR 268.50. The application/WAP shall be altered accordingly.
4. The permit application fails to discuss whether any of the waste management activities performed by Safety-Kleen at both the facilities, would constitute the generation of a new waste or require a new manifest. The New Mexico Environment Department questions whether the aggregation of wastes with different LDR statuses is occurring at Safety-Kleen. Generator status determination in this circumstance depends primarily on the establishment of a waste's "point of generation". The definition of what the "point of generation" is and its implications are described in EPA's guidance manual, *Land Disposal Restrictions: Summary of Requirements*, dated August 2001 (EPA 2001). EPA 2001, Section 8.2 states, "for characteristic wastes, each change in treatability group constitutes a new point of generation". The permit application states in Section A.1.1, Paragraph 1, Item c, *Drum Washer/Dumpster Sediment*, that, "the chemical composition of this waste is very similar to that of the bottom sediment from the tank and therefore, carries the same EPA hazardous waste codes". The application fails to mention the possibility here or anywhere else of a change in LDR treatability groups and a resultant new waste.

Safety-Kleen shall explain the following;

- a. Whether the commingling or aggregation of wastes with different LDR statuses would constitute the generation of a new waste; and
- b. Whether segregating the sediments referenced in Section A.1.1 would constitute the generation of a new waste due a change in treatability group (referenced above).

The issue is relevant to waste characterization because the generator of a waste must create a manifest in accordance with 40 CFR 262 and perform a LDR status determination at the point of generation (POG) in accordance with 40 CFR 268.7.

5. The WAP suggests that a laboratory analysis was performed only four times on Safety-Kleen wastes in the period between 1997 and 1999 (i.e., four different waste streams were analyzed once). This information was gleaned from WAP Section A.2, which proposes to perform no analytical waste characterization at the point of generation because "the composition and quality of these materials are known and Safety-Kleen's operating experiences have shown that the collected materials rarely deviate from company specifications". This Section also proposes no verification characterization will be performed at the Farmington facility because "with such large numbers of waste generators and waste shipments, performing detailed analyses at the service center is economically and logistically infeasible." Annual characterization data from Attachment A-1 demonstrates four laboratory analyses. Safety-Kleen shall explain whether this observation is accurate.
6. In general, NMED considers the waste characterization commitments in the Albuquerque Safety-Kleen facility (SKAL) permit application, dated July 27, 2001, to be more detailed and thus preferable. Specific examples are provided below.
7. The WAP fails to recognize that before wastes are stored they must be characterized as to whether they are authorized wastes (i.e., included in the Part A portion of the permit application or not otherwise prohibited by the permit).
8. Safety-Kleen shall submit a copy of applicable Safety-Kleen Standard Operating Procedures (SOPs) as related to the characterization and sampling of hazardous wastes.

SKFA WAP Section Specific Comments:

1. Section A.1 - The second sentence inaccurately states that the specifications for SKFA's "products" are provided in Attachment A.1. Please explain how the table of annually waste stream characterization relates to SKFA product. NMED is interested in product characterization due to its association with related wastes. (See SKFA WAP Section Specific Comment 5.c).

2. Section A.1 - The second sentence references the table in Attachment A.1. Is this table representative of SKFA's documentation in response to the existing annual waste characterization permit requirement found in Permit Conditions II.C and Attachment A, Section A.3? If so, please explain why the table does not provide waste characterization information for wastes resulting from the dry cleaner service for SKFA.
3. Section A.1 - The second sentence references the tables in Attachment A.1. There are few other references to the tables in the text portion of the WAP. Safety-Kleen shall elaborate on the purpose of the tables. At a minimum, Safety-Kleen must answer the following questions;
 - a. Is the Attachment meant as an example of the data needed to fulfill the following requirements;
 - i. to repeat initial analysis of wastes to ensure that the analysis is accurate and up to date as required by 40 CFR 264.13 (b) (4); and
 - ii. SKFA Operating Permit Condition II.C, together with the Waste Analysis Plan (Permit Attachment A), Section A.3, commit to analyzing each waste type "at least once each calendar year".
 - b. Is Attachment A.1 meant to identify all applicable parameters to be analyzed for each hazardous waste as required by 40 CFR 264.13 (b) (1)? Is there a reason why this analysis data does not include other possible hazardous constituents as referenced at 40 CFR 268.40 (a)?
 - c. The WAP states that the Attachment data represents the "specifications for the products". It is NMED's understanding that the data represents constituent concentrations before the reclamation process. SKFA must provide a complete chemical description of all products resulting in wastes stored at the facility, including a description in chemical variability.
 - d. The tables demonstrate that for a particular waste type (e.g., waste aqueous cleaners), wastes from different SK service centers during a particular period of time (e.g., 1998-1999) had widely ranging hazardous characteristic constituent and other physical property values. Is SKFA implying that all wastes with hazardous characteristic constituent and other physical property values that fall within the maximum and minimum values presented on the Tables are the same wastes and can be aggregated or consolidated without requiring a new manifest?

- e. The tables all include a value for the 90th percentile of the upper confidence limit (UCL) for the 50th percentile. The WAP does not explain what this data is used for. SW-846 Chapter 9, Section 9.1.1.1 discusses the use of UCLs to evaluate the degree of sampling accuracy and precision of multiple samples of a single waste stream to determine whether it is hazardous. The tables represent numerous waste streams and thus are something very different than what is discussed in SW-846. SKFA must clarify.
- f. Safety-Kleen must explain the significance of the table notation "non-detect" (ND) when the detection limit of the analysis was significantly higher than the regulatory limit. The inappropriate ND occurs on numerous tables but is a particular problem on the table for waste dry cleaner bottoms – semi-volatile analysis. Safety-Kleen must explain why NMED should not make it a permit requirement that all analysis be performed to ensure that the method detection limit (MDL) be below the applicable regulatory limit, or that Safety-Kleen be required to record one-half the MDL instead of ND.
- g. Safety-Kleen must explain whether the "site" column necessarily indicates the Safety-Kleen service centers that shipped wastes to a recycling center and the number of shipments in a particular period (i.e., did SKFA not ship any dry cleaner, paint, or photographic wastes during the referenced periods?). Section A.1.1 (a) suggests that spent solvent is removed from the storage tank on a monthly basis yet this is not reflected in the table.
- h. The tables reference the following 11 different wastes;
 - i. Waste aqueous cleaners
 - ii. Waste dry cleaner filter powder
 - iii. Waste dry cleaner bottoms
 - iv. Waste immersion cleaner
 - v. Paint waste (other)
 - vi. Waste paint gun cleaner
 - vii. Waste parts washer solvent (105)
 - viii. Waste parts washer solvent (105/150)
 - ix. Waste premium gold parts washer solvent (150)
 - x. Waste parts washer sludge
 - xi. Waste parts washer tank bottoms

Safety-Kleen must explain why all of these wastes are not referenced in the Section A.1 of the WAP.

- 9. Section A.1.1 - The section in general describes wastes resulting from the parts washer service and applies characteristic waste codes to all the wastes but does not apply any of

the listed waste codes to the wastes. Attachment A.1 demonstrates that the wastes contain significant concentrations of trichloroethylene, tetrachloroethylene, and methyl ethyl ketone. These chemicals are all solvents in F001, F002 or F005 wastes. Safety-Kleen shall explain why the wastes resulting from parts washer service are not described as carrying a "F" code as the dry cleaner and paint wastes do. Furthermore, Safety-Kleen must explain why NMED should not require through the permit that wastes resulting from the parts washer service (see Section A.1.1) be analyzed on a periodic basis for the presence of all constituents of concern in the F001-F005 listed wastes referenced at 40 CFR 268.48.

10. Section A.1.2 - Paragraph 1, last sentence, states, "... other types of dry cleaning waste (e.g., freon) will be managed on a transfer basis only". Section A.5.c states that "unique or non-standard waste streams" will also be managed on a "transfer basis" only. Section A.7 states that for waste "managed on a transfer basis, the Subpart CC regulations do not apply". Safety-Kleen shall thoroughly explain why NMED should not require, through the permit, that all waste managed at the facility be managed subject to the requirements of 40 CFR Parts 264, 268 and 270 as is required by 40 CFR 262.34 (b) of any generator who accumulates hazardous waste for more than 90 days.
11. Section A.1.2 - Paragraph 2, Sentence 1, refers to the distillation of wastes from dry cleaner service. Safety-Kleen shall specify where this distillation process occurs. The WAP implies distillation may be happening at the generator locations or the Farmington service center. If the distillation process is occurring at either of these locations, Safety-Kleen must explain whether the distillation process is a materials recovery process meeting the definition of treatment provided at 40 CFR 260.10, and thus requiring a permit.
12. Section A.1.4 - This section references three photographic/imaging wastes, yet implies that none of them can be considered a hazardous waste. Safety-Kleen shall significantly elaborate on the regulatory status of these wastes. Sentence 1 states, "some photographic imaging wastes managed at the facility are not solid wastes per 40 CFR 261.2 (c) because their hazardous constituent is reclaimed." Is Safety-Kleen referencing this regulation in relation to the photo fixer solution from which silver may be recovered?

NMED understands that the U.S. EPA has made solid waste determinations on a material-by-material basis (See RCRA Regulations and Keyword Index, 2000 Edition, published by Aspen Law and Business (Aspen 2000) and the RCRA Hotline Question and Answer #54 (RCRA-54)). Safety-Kleen shall provide these EPA determinations.

13. NMED feels that it may be appropriate to identify wastes in the permit that are not subject to the permit, but to be consistent, all such wastes must be identified. Please provide a list of all materials (non-products) stored at the facility that might be considered

by an inspector to be hazardous waste subject to the permit and that Safety-Kleen feels are not subject to 40 CFR Parts 264, 268 and 270 permitting conditions. Furthermore, because the photo fixer solution which would normally carry a D011 waste code is obviously prohibited from land disposal under the LDRs, the off-site shipment of this waste must be accompanied by a LDR notification form as required by 40 CFR 268.7 (a) (1). That notice shall include the following information (see RCRA-126);

- a. EPA Hazardous Waste Number (waste code);
 - b. The hazardous constituents and their corresponding treatment standards and all other applicable prohibitions set forth in 40 CFR 268.32;
 - c. The manifest number associated with the shipment of the waste; and
 - d. Waste analysis data where available.
14. Section A.2 - Paragraph 3, last sentence, states, "... procedures to verify waste characteristics occur at several check points in the management of the solvent". The WAP identifies three checkpoints; the QC procedures performed when Safety-Kleen services its clients, when the wastes are transferred into the storage tank, and the annual characterization performed at the reclamation center. If Safety-Kleen has additional procedures to verify waste characteristics they must be elaborated on in the WAP.
15. Section A.2 - Paragraph 3, first sentence, references HWMR 206.B.3 inappropriately. NMED believes the appropriate and applicable regulation is 20.4.1.500 NMAC (incorporating 40 CFR 264.13 (a) (3) (i)).
16. Section A.2 - The SKAL permit application contains the following commitments that shall be included in the SKFA application, or provide a reason as to why they/it should not be included:
- a. Questionable wastes received at the service center shall be analyzed before they leave the facility;
 - b. The Branch Manager will be notified of any contamination that may have occurred. Furthermore, NMED requires through its omnibus authority specified in 20.4.1.900 NMAC (incorporating 40 CFR 270.32 (b) (2)) that Safety-Kleen commit in its WAP, to notifying the Hazardous Waste Bureau (HWB), Enforcement Program Manager of any contamination that may have occurred;
 - c. Training commitments; and

d. The procedures for wastes rejected at the time of service.

17. Section A.2 - The section implies that waste characterization will primarily be through acceptable knowledge (AK). Acceptable knowledge is defined in EPA guidance, "Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Waste" dated April 1994, as process knowledge and prior sampling data performed before the effective date of RCRA regulations. Current sampling and analysis is the preferred method, and the Permittee shall obtain characterization by sampling and analysis whenever feasible.

Acceptable knowledge may be used as the sole method to characterize waste only when the waste is from processes that are well documented with supporting information that address all characterization requirements of the permit, including the requirement to determine the LDR status of the waste as well as the other DQOs referenced at General Comment #1. Safety-Kleen shall maintain written documentation supporting the use of AK for each waste stream. SKFA shall include in the record all specific AK documentation assembled and used in the AK process, whether or not it supports the decision to use AK.

18. Section A.2.1 - Paragraph 2 states that as part of the QC procedures, a Safety-Kleen sales representative makes a visual examination of the wastes prior to recovery. Safety-Kleen must commit in Section A.6 of the WAP, to include a record of each of these QC examinations in both SKFA's and SKAL's operating record.
19. Section A.2.1.c - Safety-Kleen must elaborate on the sampling technique(s) used to determine whether the contents of a waste drum deviate from the description in the section. Safety-Kleen shall also describe the sampling techniques used to characterize waste at the service center as referenced in last paragraph of Section A.2.1.c.
20. Section A.2.3 - This section addresses paint waste but makes no mention of waste abrasive blasting media used to remove paint. This is generally a waste stream created at paint shops that is generally characteristically hazardous for metals. Does Safety-Kleen manage abrasive blasting media?
21. Section A.3 - This section shall be amended with a description of the quality assurance procedures to be used when performing laboratory analyses (e.g., equipment calibration and maintenance, data reduction and validation, and records management). The section must also be amended with a commitment to ensure those procedures are adhered to and documented in the both the SKFA and SKAL operating record.
22. Section A.3, Table A-1 - Table A-1 inappropriately lists "TCLP" as a parameter (the parameter is toxicity characteristic, TCLP is a sample preparation method) and fails to

address paint and photo chemical wastes. The SKAL permit application Section A.3 has a preferable discussion of waste parameters.

23. Section A.3, Table A-1 - Table A-1 must be augmented with a parameter and its associated rationale regarding the determination of a waste's LDR status. In fact, "determination of a waste's LDR status" can be the rationale and "hazardous constituent concentration" might be the parameter. Safety-Kleen shall alter other tables accordingly.
24. Section A.3, Table A-2 - Table A-2 must clarify that TCLP is simply a sample preparation method (which is not necessary when a waste is in liquid form). To determine a waste's toxicity characteristic, it may be necessary to first perform a leaching procedure (TCLP) and then perform a total analysis. The table should also identify the test method(s) Safety-Kleen will use to measure inorganic constituents in a waste.
25. Section A.3, Table A-3 - Table A-3 references U.S. EPA's *Test Methods for the Evaluation of Solid Waste Physical/Chemical Methods*, SW846, Section 1.2.1.1. The current on-line version of SW846 available at <http://www.epa.gov/epaoswer/hazwaste/test/main.htm>, is not organized with sample collection methodologies at Section 1.2.1.1. Please reference the appropriate section of the on-line version. Furthermore, SW846 does say at Section 3.3.4, *Sample Collection*, that "The procedures describing how the sampling operations are actually performed in the field should be specified. A simple reference to standard methods is not sufficient, unless a procedure is performed exactly as described in the published method." Safety-Kleen shall amend the WAP accordingly.
26. Section A.3, Table A-3 - Table A-3 states that the sampling device to be used for solvent tank bottoms is the same device to be used for spent solvents. This device is the Copliwasa tube. SW846 Chapter 9, Section 9.2.2.3, states, "... the Coliwasa is a device employed to sample free-flowing liquids and slurries ...". Safety-Kleen shall explain how effective the Coliwasa is at sampling tank bottoms.
27. Section A.3, Table A-4 - Table A-4 states that the frequency of analysis for all wastes will be "at least annually". The SKAL permit application WAP, Section A.3.1, and the SKFA current operating permit WAP, commit to performing an abbreviated analysis on "every load received at the recycle center". If this is in fact standard Safety-Kleen procedure, it shall be referenced in the SKAL and SKFA WAPs.
28. Section A.4 - The section must recognize and reference the permit modification procedures at 20.4.1.900 NMAC (incorporating 40 CFR 270.42), *Permit modification at the request of the Permittee*.

29. Section A.5 - The section fails to address all applicable LDR notification requirements. Safety-Kleen must specifically commit to ensuring that all hazardous wastes stored at the facility, regardless of where the wastes are generated, are characterized for all applicable LDR notification requirements as identified at General Comment #2.
30. Section A.5 - The section shall be augmented to commit to maintaining in the SKFA and SKAL operating records, a copy of all LDR status notifications, including those for wastes generated onsite and for wastes received from off-site generators, as required by 40 CFR 264.73 (15) and (16). Additionally, please explain what is meant by the term "receiving facility" as used in the last paragraph of Section A.5.
31. Section A.5.b - NMED is unfamiliar with the waste type abbreviations "MS" and "IC". Please elaborate in the WAP.
32. Section A.6 - The section lists information to be kept in the facility operating record including numerous inappropriately listed non-waste characterization items that are not referenced elsewhere in the application. Safety-Kleen must relocate this information in a more appropriate location within the SKAL and SKFA applications.
33. Section A.6, Item 1 - The section inappropriately references a regulation as "Pt. V. sec.264, Appendix I". NMED believes the appropriate reference should be 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Appendix I). That regulation (which is applicable to SKFA and SKAL) requires, in part, the inclusion of a description of the process that produces a waste. NMED requires Safety-Kleen to include in its application a commitment to characterize the waste generating process as outlined at Appendix II.
34. Section A.6, Item 10 - The section references where LDR notifications are maintained. Safety-Kleen shall clarify the phrase "resource recovery (May 1994) branch manager's office". NMED requires that the LDR records be kept at the facility for inspection purposes.
35. Section A.7 - The section is titled "Waste Determination for Subpart BB and CC Compliance" but does not address characterizing wastes for their Subpart BB applicability by measuring their total organic concentration by weight. Safety-Kleen must amend the SKAL and SKFA WAPs accordingly.

Appendix I

Data Quality Objectives (DQOs)

Waste characterization data obtained through WAP implementation shall be used to ensure that the Permittee meets regulatory obligations at permitted hazardous waste storage units. A portion of the DQOs that shall be met for all waste characterization will be to comply with the following applicable Resource Conservation and Recovery Act (RCRA) regulatory requirements:

1. To determine all information which must be known to treat, store and dispose of the wastes in accordance with New Mexico's Hazardous Waste Regulations, 40 CFR 264.13 (a) (1);
2. To determine if the waste is hazardous 40 CFR 262.10 (c) and 40 CFR 262.11;
3. To ascertain the hazardous constituents in a waste stream to identify all applicable hazardous waste codes and all underlying hazardous constituents in accordance with 40 CFR 262.11, 40 CFR 268.7 (a) (2), and 40 CFR 268.9 (a);
4. To ascertain whether the waste must be treated before it can be land disposed in accordance with 40 CFR 268.7 and 40 CFR 268.9;
5. To ascertain whether a routine waste generating process has changed sufficiently to create a new waste stream and alternative regulatory requirements pursuant to 40 CFR 264.13 (a) (3) (i), 40 CFR 268.7 (a) (3) (iii), and 40 CFR 268.7 (b) (3) (ii);
6. To facilitate appropriate waste packaging for transportation in accordance with 40 CFR 262.10 (h);
7. To ascertain the presence and concentration of wastes constituents that might cause unlawful air emissions in accordance with 40 CFR 270.25 (a), 40 CFR 264.179, 40 CFR 264.200, 40 CFR 264.13 (b) (6), 40 CFR 264.601 (c) (1), 40 CFR 264.1050, and 40 CFR 264.1082;
8. To ensure that wastes are not inappropriately diluted to avoid LDR treatment requirements in accordance with 40 CFR 268.3;
9. To determine the presence of prohibited materials in accordance with 40 CFR 268.50 (f);
10. To determine the presence of free liquids in wastes in accordance with 40 CFR 270.15 (b) (1), 40 CFR 264.13 (b) (6);

11. To ascertain waste/waste and waste/container compatibility characteristics in accordance with 40 CFR 270.15, 40 CFR 270.16, 40 CFR 264.172, 40 CFR 264.177, and 40 CFR 264.199; and
12. To ascertain waste ignitability and reactivity characteristics in accordance with 40 CFR 270.16 (j), 40 CFR 264.17 (a), and 40 CFR 264.198 (a).

Appendix II

Waste Process Information

The Permittee shall obtain process knowledge documentation from the generator that is explicitly relevant and traceable to each waste stream. The following information presents process knowledge the Permittee are required to obtain:

1. Area(s) and/or building(s) from which the waste stream was or is generated;
2. Waste stream volume and time period of generation;
3. Description of waste generating process; and
4. Material inputs or other information that identifies the chemical content of the waste stream and the physical waste form.

OVERNIGHT DELIVERY
RETURN RECEIPT REQUESTED



March 9, 2003

Mr. Steve Pullen
Permits Management Program
State of New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303



Re: Notices of Deficiency (NOD) for Safety-Kleen Farmington and Safety-Kleen Albuquerque Facilities

Dear Mr. Pullen:

Safety-Kleen Systems, Inc. (S-K) operates service centers in Farmington, New Mexico (4210A Hawkins Road) and Albuquerque (2720 Girard NE) for temporary accumulation and storage of hazardous wastes, prior to transporting offsite for reclamation, treatment or disposal. RCRA Permit Renewal Applications were submitted to the New Mexico Environment Department/Hazardous Waste Bureau (NMED/HWB).

In a letter (Notice of Deficiency) dated November 15, 2002, NMED/HWB required additional information. A response to the NMED/HWB NOD and the required information is provided with this correspondence. Each of the NMED/HWB items is summarized below for convenience. A response providing the supplemental information follows each of the NMED requests.

NMED/HWB (SKFA Specific) Item No. 1.

Section A.1 – The second sentence inaccurately states that the specifications for SKFA's "products" are provided in Attachment A.1.

S-K Response No. 1.

The omission of information about Safety-Kleen products was an oversight. Please find enclosed, MSDSs for the relevant Safety-Kleen parts washer service and paint service products. These MSDSs include more information than required by OSHA (40 CFR 1910.1200).

NMED/HWB (SKFA Specific) Item No. 2.

Section A.1 – The table referenced in Attachment A.1 does not include waste characterization information for wastes resulting from the dry cleaner service for SKFA.

S-K Response No. 2.

It appears to have been an administrative omission, not to include dry cleaner waste characterization data. Please find attached the most recent full waste characterization package with summary tables including dry cleaner data.



NMED/HWB (SKFA Specific) Item No. 3.

Section A.1 – Safety-Kleen must answer the following questions;

- a. Is the attachment meant as an example needed to fulfill the following requirements:
 - i. To repeat analysis to ensure that the analysis is accurate and up to date as required by 40 CFR 264.13(b)(4); and
 - ii. SKFA Operating Permit Condition II.C together with the Waste Analysis Plan (Permit Attachment A), commitment to analyzing each waste type "at least once per year?
- b. Is Attachment A.1 meant to identify all applicable parameters to be analyzed for each hazardous waste as required by 40 CFR 264.13(b)(1)? Is there a reason why this analysis data does not include other possible hazardous constituents as referenced at 40 CFR 268.40(a)?
- c. SKFA must provide a complete chemical description of all products resulting in wastes stored at the facility, including a description in chemical variability.
- d. The tables demonstrate that for a particular waste type, wastes from different SK service centers had widely ranging hazardous characteristic constituent and other physical property values. Is Safety-Kleen implying that all wastes with hazardous characteristic constituent physical property values that fall within the maximum and minimum values represented in the Tables are the same wastes and can be aggregated or consolidated without requiring a new manifest?
- e. The tables all include a value for the 90th percentile of the upper confidence limit (UCL) for the 50th percentile. SW-846 Chapter 9, Section 9.1.1.1 discusses the use of UCLs to evaluate the degree of sampling accuracy and precision of multiple samples of a single waste stream to determine whether it is hazardous. The tables represent numerous waste streams and thus are something very different than what is discussed in SW-846. SKFA must clarify.
- f. Safety-Kleen must explain the significance of the table notation "non-detect" (ND) when the detection limit of the analysis is significantly higher than the regulatory limit. The inappropriate ND occurs on numerous tables but is a particular problem for waste dry cleaner bottoms – semi-volatile analysis. Safety-Kleen must explain why NMED should not make it a permit requirement that all analysis be performed to ensure that the method detection limit (MDL) be below the applicable regulatory limit, or that Safety-Kleen be required to record one-half the MDL instead of ND.
- g. Safety-Kleen must explain whether the "site" column necessarily indicates the safety-Kleen service centers that shipped wastes to a recycling center and the number of shipments in a particular period.
- h. The tables reference the following 11 different wastes;
 - i. Waste aqueous cleaners
 - ii. Waste dry cleaner filter powder
 - iii. Waste dry cleaner bottoms
 - iv. Waste immersion cleaner
 - v. Paint waste (other)
 - vi. Waste paint gun cleaner
 - vii. Waste parts washer solvent (105)
 - viii. Waste parts washer solvent (150)
 - ix. Waste premium gold parts washer solvent (150)
 - x. Waste parts washer sludge
 - xi. waste parts washer tank bottoms.

Safety-Kleen must explain why all these wastes are not referenced in section A.1 of the WAP.

S-K Response No. 3:

- a.
 - i. This attachment represents the sampling done in one year to represent waste managed by Safety-Kleen throughout the year. This process is performed to characterize waste managed by Safety-Kleen. When significant process changes occur, analysis will be performed to recharacterize the waste.
 - ii. Safety-Kleen characterizes its wastes at least annually. The attachment represents one year's data. This process is completed each year to on waste streams managed by Safety-Kleen.
- b. The purpose of the attachment is to summarize the data collected to characterize Safety-Kleen's wastes and indicate the waste codes that characterization indicates are appropriate for the waste stream. During the process of characterizing the waste streams, hazardous constituents are also revealed. Hazardous constituents that are expected to occur in the waste streams, based on the same laboratory analyses as the characterization, are then reflected in the Land Disposal Restriction Notifications (LDRs).
- c. It was an error to indicate that waste characterization represents product specification. Please find attached, MSDSs for the relevant Safety-Kleen products. These MSDSs contain information beyond that required by OSHA.
- d. The attachment is not meant to imply that wastes from various sources with varying chemical and physical properties may be aggregated or consolidated without requiring a new manifest. The attachment identifies waste generated with essentially similar raw materials in essentially similar processes. The attachment indicates that there is some variability in the waste generated based on the operator of the process. For example (page 88 of the attached annual characterization package, samples 2015441 and 2015462), an operator in Albuquerque, NM might have used their parts washer more than a operator in Omaha, NE. By using the parts washer more, more oil and grease was added, raising the flash point. In the same example, the operator in Omaha may have cleaned a carburetor in the parts washer, introducing gasoline and thus, benzene. Regardless of day-to-day variations in the use of the parts washers, operators use parts washers to clean automotive parts, essentially the same process with the same raw materials.
- e. Please see "d." above.
- f. Please see "d." above.
- g. The "site" column indicates the Safety-Kleen site whose customer's waste the sample represents. The sampling is not meant to represent each shipment of hazardous waste. For example, spent solvent is removed from the facility storage tank on an as needed basis, perhaps once per month. The tank bottoms samples listed in the annual waste recharacterization table represent a sampling of tank
- h. The entries in the annual waste recharacterization represent wastes handled by Safety-Kleen throughout the country. Not a of these wastes are managed to a significant degree at the Safety-Kleen Farmington facility. For this reason, not all wastes are included in the permit application, and only some of these wastes would be stored at the Safety-Kleen Farmington facility.

NMED/HWB (SKFA Specific) Item No. 9.

Safety-Kleen shall explain why the wastes resulting from parts washer service are not described as carrying a "F" code as the dry cleaner and paint wastes do and why Safety-Kleen should not analyze for all constituents of concern in the F001 – F005 Listed wastes referenced in 40 CFR 268.48.

S-K Response No. 9.

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The description of wastes carrying a "F" code is dependant on the presence in the spent solvent before use of 10 percent or more of any of the constituents listed as constituents of F001 through F005 wastes. The parts washer solvent is less than 10 percent of each and less than ten percent of all those constituents. The case is different with both dry cleaner solvent and with paint waste.

The solvents used in these process are more than ten percent of one or several of the constituents listed as part of F001 through F005. Hazardous waste codes F001 through F005 are not appropriate for parts washer solvent. Please see the attached MSDSs for lacquer thinner and parts washer solvents (Safety-Kleen products).

NMED/HWB (SKFA Specific) Item No. 10.

Why should Safety-Kleen Farmington not manage all wastes at the facility according to 40 CFR Parts 264, 268, and 270 as required by 40 CFR 262.34(b)?

S-K Response No. 10.

The phrase, "transfer basis", may have been misunderstood. All wastes managed b y the facility are managed as required by 40 CFR 262.34(b). Some customers generate wastes that Safety-Kleen is not permitted to store. For these wastes, the customer may profile the waste at a TSDF permitted to manage them. Once the waste profile has been approved at the TSDF, Safety-Kleen Farmington may transport that waste to the designated facility, complying with all applicable requirements of 40 CFR 263.

NMED/HWB (SKFA Specific) Item No. 11.

Section A.1.2 – Paragraph 2, sentence 1 refers to the distillation of wastes from dry cleaner service. Safety-Kleen must explain where such distillation occurs and whether this meets the definition of treatment provided at 40 CFR 260.10, thus requiring a permit.

S-K Response No. 11.

Dry cleaners use solvents rather than water to clean clothes. To be cost effective and protective of the environment, by not wasting resources, dry cleaning equipment typically includes distillation as a part of the cleaning equipment. This activity takes place only at dry cleaners. This activity does not meet the definition of treatment at 40 CFR 260.10 as the material involved is not a solid waste. Please see 40 CFR 261.4(a)(8)

NMED/HWB (SKFA Specific) Item No. 12.

Is Safety-Kleen referencing 40 CFR 261.2(c) in relation to the photofixer solution from which silver may be recovered?

S-K Response No. 12.

No, Safety-Kleen is not referencing 40 CFR 261.2(c) in relation to the photofixer solution from which silver may be recovered. The Safety-Kleen facility transports photo waste some of which is solid waste and not hazardous waste. The photofixer solution is managed as a hazardous waste with waste code D011.

NMED/HWB (SKFA Specific) Item No. 13.

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Please provide a list of all materials (non-products) stored at the facility that might be considered to be hazardous waste subject to the permit and that Safety-Kleen feels are not subject to 40 CFR 264, 268, and 270 permitting conditions. Also, photofixer must be accompanied by a LDR notification.

S-K Response No. 13.

Safety-Kleen may transport some hazardous wastes (as allowed in 40 CFR 263) without otherwise managing these wastes. Safety-Kleen believes that an inspector would agree that waste transported to meet the requirements of 40 CFR 263 are not subject to 40 CFR 264, 268, and 270 permitting conditions at the transport facility. Safety-Kleen agrees that photofixer is a hazardous waste and subject to LDR requirements. These requirements will be met.

NMED/HWB (SKFA Specific) Item No. 14.

If Safety-Kleen has additional procedures to verify waste characteristics they must be elaborated on in the WAP.

S-K Response No. 14.

There are no additional procedures in place to verify waste characteristics. However, any information that becomes known to Safety-Kleen that effects the waste characterization information will be considered, regardless of how the information comes to Safety-Kleen.

NMED/HWB (SKFA Specific) Item No. 15.

Section A.2 – Paragraph 3, first sentence, references HWMR 206.B.3 inappropriately. NMED believes the appropriate and applicable reference is 20.4.1.500 NMAC (incorporating 40 CFR 264.13(a)(3)(I)).

S-K Response No. 15.

Safety-Kleen agrees that the regulatory cite is in error. The reference has been corrected.

NMED/HWB (SKFA Specific) Item No. 16.

Section A.2 – The SKAL permit application contains several commitments that should be included in the SKFA application.

S-K Response No. 16.

Safety-Kleen agrees. Those same commitments have been included in the SKFA permit application, specifically in the WAP, enclosed.

NMED/HWB (SKFA Specific) Item No. 17.

Safety-Kleen shall include in the record all specific acceptable knowledge (AK) documentation assembled and used in the AK process, whether or not it supports the decision to use AK.

S-K Response No. 17.

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Safety does use knowledge of the raw materials and processes that create hazardous wastes as a starting point in understanding the nature of the hazardous waste. However, analytical testing is used to determine waste codes and hazardous constituents in the waste.

NMED/HWB (SKFA Specific) Item No. 18.

Safety-Kleen must commit to include a record of the visual examination of wastes prior to recovery made by Safety-Kleen sales representatives.

S-K Response No. 18.

Safety-Kleen does make a record of this visual inspection of wastes and commits to continue to do so.

NMED/HWB (SKFA Specific) Item No. 19.

Safety-Kleen must elaborate on the sampling technique(s) used to determine whether the contents of a waste drum deviate from the description in the section. Safety-Kleen shall also describe the sampling techniques used to characterize waste at the service center as referenced in the last paragraph of Section A.2.1.c.

S-K Response No. 19.

This section has been modified. These modifications along with previously submitted characterization procedures describe in more detail the sampling techniques used to determine the acceptability of the material.

NMED/HWB (SKFA Specific) Item No. 20.

Does Safety-Kleen manage abrasive blasting media?

S-K Response No. 20.

Safety-Kleen does not manage abrasive blasting media as one of its core waste streams. However, if a customer properly profiles abrasive blasting media waste at a disposal facility, Safety-Kleen may act as a transporter only, transporting the properly manifested waste to a designated facility.

NMED/HWB (SKFA Specific) Item No. 21.

Section A.3 – This section shall be amended with a description of the quality assurance procedures to be used when performing laboratory analyses. The section must also be amended with a commitment to ensure those procedures are adhered to and documented in the both of SKFA and SKAL operating record.

S-K Response No. 21.

Neither Safety-Kleen Farmington, nor Safety-Kleen Albuquerque operate a laboratory. All analyses are performed by contract laboratories following EPA protocol.

NMED/HWB (SKFA Specific) Item No. 22.

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Section A.3, Table A-1 inappropriately lists TCLP as a parameter. The SKAL permit application Section A.3 has a preferable discussion of the waste parameters.

S-K Response No. 22.

As it is Safety-Kleen's intention to operate all facilities to the same standard, the SKAL discussion has been included in the SKFA permit application. See the SKFA WAP, attached.

NMED/HWB (SKFA Specific) Item No. 23.

Safety_Kleen must include parameter and rational to determine waste LDR status.

S-K Response No. 23.

Tables A-1 and A-2 have been updated to meet this requirement.

NMED/HWB (SKFA Specific) Item No. 24.

Safety_Kleen must identify TCLP as a sample preparation method, not an analytical method.

S-K Response No. 24.

Table A-2 has been updated to meet this requirement.

NMED/HWB (SKFA Specific) Item No. 25.

Please reference the current section of SW-846 for Sample Collection. Also, provide detailed information about sampling procedures and techniques.

S-K Response No. 25.

Table A.3 has been modified to meet this requirement. Also, Safety-Kleen training course, ET-143 "Sampling Hazardous Materials and Wastes" is attached.

NMED/HWB (SKFA Specific) Item No. 26.

Safety_Kleen must explain how effective the Coliwasa is at sampling tank bottoms.

S-K Response No. 26.

The Coliwasa may not be the most effective means of sampling tank bottoms. Please see Safety-Kleen training course ET-143, "Sampling Hazardous Materials and Wastes", attached. Employees are required to adhere to training provided.

NMED/HWB (SKFA Specific) Item No. 27.

If it is in fact standard Safety-Kleen procedure to sample every load at the recycle center, the WAP shall so.

S-K Response No. 27.

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While it is standard procedure to sample every load at the recycle center, it may be inappropriate to describe that procedure in the branch (service center) WAPs as the WAPs at the recycle centers (i.e. SK-Denton, TX, SK-Reedley, CA, etc.) are controlled at those site and by those states' regulatory agencies.

NMED/HWB (SKFA Specific) Item No. 28.

Section A.4 must recognize and reference 20.4.1.900 NMAC (incorporating 40 CFR 270.42).

S-K Response No. 28.

This change has been made to Section A.4.

NMED/HWB (SKFA Specific) Item No. 29.

Safety-Kleen must commit that all wastes stored at the facility are characterized for applicable LDR notification requirements.

S-K Response No. 29.

This change has been made to Section A.5.

NMED/HWB (SKFA Specific) Item No. 30.

Safety-Kleen must commit to maintaining the LDR notice in the facility record. Also, Safety-Kleen should explain what is meant by "receiving facility" in the last paragraph of Section A.5

S-K Response No. 30.

This change has been made to Section A.5. "Receiving facility" means, "designated facility" as defined in 40 CFR 260.10.

NMED/HWB (SKFA Specific) Item No. 31.

Safety-Kleen must elaborate on the meaning of the abbreviations, "MS" and "IC", in the WAP

S-K Response No. 31.

"MS" means mineral spirits and "IC" means immersion cleaner. These abbreviations have been removed from the WAP.

NMED/HWB (SKFA Specific) Item No. 32.

Safety-Kleen must relocate non-waste characterizations items for the facility record elsewhere in the permit application.

S-K Response No. 32.

Safety-Kleen believes the information is appropriately listed here as the record includes information related to the proper storage of the waste. Safety-Keen will move the information to whichever section(s) NMED desires. Safety-Kleen will maintain the required records regardless of the section of the permit application they appear in.

NMED/HWB (SKFA Specific) Item No. 33.

Section A.6 inappropriately references "Pt. V. sec. 264, Appendix I". Also, Safety-Kleen must commit to characterize the waste generating process as outlined at Appendix II (sic).

S-K Response No. 33.

This inappropriate reference has been corrected and now appropriately commits to this requirement.

NMED/HWB (SKFA Specific) Item No. 34.

Section A.6, Item 10 stated that LDR notifications will be maintained at the "branch manager's office". NMED requires that LDR records be maintained at the facility for inspection purposes.

S-K Response No. 34.

Section A.6, Item 10 has been restated to clarify this commitment.

NMED/HWB (SKFA Specific) Item No. 35.

Safety-Kleen must characterize wastes for Subpart BB applicability.

S-K Response No. 35.

The WAP has been modified to meet this requirement.

If you have any questions, comments, or concerns, please contact me (602-821-2422) or Mike Crawford (505-884-2277).

Sincerely,

David Ashley
EHS Manager
Safety-Kleen Corporation

Enclosures

cc: File
Steve LuQuire, Safety-Kleen

WASTE ANALYSIS PLAN

ABSTRACT

| Waste Description | EPA Waste Code No. | Facility Capacity ¹ (gallons) | Annual Amount ² |
|--|-------------------------------|---|----------------------------|
| Spent Solvents | D001 ³ | 12,000 | 50 |
| Bottom Sediment From the Tank and Ancillary Equipment | D001 ³ | N/A | 2 |
| Spent Immersion Cleaner | D001 ³ | 4,464 | 3 |
| Dry Cleaning Waste | D001, F002 ³ | 6 | |
| Paint Waste | F003, F005, D001 ³ | 4,464 | |
| Photo Chemical Wastes | D011 | 4,464 | |

NOTES: 1 The facility capacity is in gallons.

2 The annual amount is in thousands of gallons.

3 and may also include D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043

4 The total amount of drummed waste stored in the warehouse will not exceed 3,820 gallons.

The Facility shall store only wastes it is authorized to store. That is, Safety-Kleen will only store wastes included in Part A of the application for hazardous waste permit and not otherwise prohibited by the permit. Safety-Kleen will not store any hazardous waste for more than one year.

These waste streams are characterized annually as described in the "Statistical Analysis of Annual Waste Characterization Data", attached and incorporated herein by reference. (The most recent data are also included.) The testing and sampling methodology is as described in A.3, below. The data generated in this process is used to assign waste codes, if any, for each waste stream. The data generated in the annual recharacterization (AR) is also used to assist recycle centers in recycling or treating the waste streams. Recycle centers also rely on their own waste analysis plans to generate data to recycle materials and or dispose of waste. If while providing service to a customer if there is suspicion that the waste does not meet the acceptance criteria, the waste will not be picked up and the customer must provide information explaining what is in the waste and how the waste was adulterated. Please see the text below in this waste analysis plan.

Providing service to Safety-Kleen customers is dependent on a review of the customer business. If the business is a typical generator of that waste stream (for example, a garage generating parts washer waste), then limited review is performed. If the business is not a typical generator of that waste stream or if the business has other processes on site, a more detailed review of the business is performed and a certification from the customer is required stating the waste will be as described without adulterants. For example, laboratory analysis of that customer's waste may be required.

In this AR process, regulated hazardous constituents and reasonably expected underlying hazardous constituents (UHC)s are also discovered. UHC which is discovered in the annual recharacterisation will be assumed to expected throughout the waste stream. The applicable constituent concentration or technology based treatment standards for the wastes and / or individual hazardous constituents will be identified, if required by regulation, on the LDR

generated from this data. The LDRs generated in this process also identify whether the waste must be treated before being land disposed when required by regulation.

AR data is used to update subpart BB and Subpart CC plans (see these plans elsewhere in this permit application). It is anticipated that minor changes in the waste streams are unlikely to significantly change in air emissions.

Recycle centers test every shipment of waste for PCBs. If a shipment is discovered to contain PCBs, the source of the PCBs is traced and appropriate 40 CFR 761 requirements are implemented. Any equipment contaminated by PCBs is removed from service decontaminated cleaned before being put into service.

The Safety-Kleen transportation department is responsible for selecting packaging for Safety-Kleen waste streams, in addition to their responsibility for company compliance with Federal, State, and local transportation regulations and rules. The transportation department has selected packaging based on past waste recharacterizations and continue to review AR and other data to maintain compliance with material packaging requirements.

A.1 DESCRIPTION OF WASTES

Several types of waste result from the servicing of Safety-Kleen customers and the maintenance of the service center. It should be noted that the solvents managed at this facility are incompatible with strong oxidizers and reactive metals, none of which are present in the containers, container storage area, or the concrete sealant. The solvents are also compatible with one another. Analytical data for the wastes and specifications for the products are in Attachment A-1 and qualitative descriptions follow.

A.1.1 Wastes Resulting From the Parts of Washer Service

Used solvents from parts washers is accumulated in a 12,000 gallon aboveground, storage tank via the return and fill station. Containers of used material are poured into a dumpster at the return and fill station which in turn empties into the tank. This waste handling method results in several types of solvent waste:

- a. Used solvent - The used solvent is removed from the tank by a tanker truck on a scheduled basis. About 5,000 gallons are removed every month. This waste is ignitable (D001) and may exhibit the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.
- b. Bottom sediment in the tank - Approximately once every two years, it is necessary to remove sediment and other heavy material from the bottom of the tank. A Safety-Kleen vacuum truck is generally used for this purpose. The sediment is ignitable (D001) and may exhibit the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.
- c. Dumpster Sediment - Sediment may also accumulate in the drum washers in the return/fill station. The sediment is manually removed and placed in containers. The dumpster sediment is representative of the waste codes described in items a and b above.
- d. Used Aqueous Parts Cleaning Solvent - may be bulked at the service center into containers that meet DOT specifications or may be co-mingled with the other solvent into the used solvent tank. It may be toxic using the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.
- e. Immersion Cleaner - is a different type of solvent that is not placed in the aboveground storage tank. Containers of immersion cleaner typically remain in the drum in which it was originally used until it is received at the recycle center. Drums are placed in the drum storage area of the warehouse and are stacked no more than two-high in the drum storage area of the warehouse.

The immersion cleaner is a non-halogenated hydrocarbon mixture and may exhibit the toxic characteristics of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.

A.1.2 Wastes Resulting From the Dry Cleaner Service

Dry cleaning wastes consist of used filter cartridges, powder residue from diatomaceous or other powder filter systems and still bottoms. These wastes are packaged on the customer's premises in containers meeting DOT specifications. The containers are then palletized, stacked two-high and placed in the container storage area of the warehouse. Approximately 95% of the dry cleaning solvent used is perchloroethylene (F002 and D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043) and the remaining 5% is trichloro-trifluoroethane (F002) and toxic using the characteristic leaching procedure (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043).

A.1.3 Wastes Resulting From the Paint Service

Paint wastes consist of various lacquer thinners (D001, F003, and F005) and may be toxic as per the characteristic leaching procedure (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043). The wastes are collected in containers which meet DOT requirements at the customer's place of business and containers are then palletized and stored in an enclosed concrete masonry building (the H-3 Flammable Storage Building).

A.1.4 Photographic/Imaging Wastes

Some photographic imaging wastes managed by the facility are not solid wastes per 40 CFR 261.2(c) because their hazardous constituent is reclaimed. Others are managed under the provisions of Subpart F of 40 CFR 266 – Recyclable Materials Utilized for Precious Metals Recovery. Imaging waste consists typically of three waste streams. Photo fixer solution is an aqueous solution used to etch photo film during processing. This material is characteristic for silver (D011). Safety-Kleen is able to recover the silver from the solution. Used Photo developer is an aqueous solution that exhibits no hazardous waste characteristics but may not be allowed to discharge into public wastewater treatment systems in some communities. Silver collection canisters are sent to a recycle center for reclamation. These canisters do not meet the definition of a hazardous waste as per 40 CFR 260.30(c) and are managed as a non-regulated material.

A.2 QUALITY CONTROL PROCEDURES

The used solvents are the primary feed stocks for the generation of Safety-Kleen solvent products. As a result, quality control of the used solvents is necessary to ensure that reclamation occurs in the safest and most efficient manner possible. The service center collects used solvents from approximately 1,100 customers, most of who are small quantity generators, and an estimated 14,000 drums containing recoverable solvents are returned to the service center each year for shipment to a reclaimer. With such large numbers of waste generators and waste shipments, performing detailed analyses at the service center is economically and logistically infeasible.

Furthermore, as discussed earlier in the Facility Description, all the materials collected at the service center are managed at all times in a closed loop system and are usually collected from a company with a single process. The composition and quality of these materials are known and Safety-Kleen's operating experiences have shown that the collected materials rarely deviate from company specifications. As an additional safeguard, Safety-Kleen personnel are instructed to inspect all materials before returning them to the service centers as described in Section A.2.1. This mode of operation has been proven to safeguard the recycling process and maintain a quality product.

However, in accordance with 20.4.1.500 NMAC (incorporating 40 CFR (a)(3)(i)), Safety-Kleen will perform physical and chemical analysis of a waste stream when it is notified or has reason to believe that the process or operation generating the waste has changed, or when the result of inspection indicates that the waste collected does not match that designated. It is Safety-Kleen's practice that suspected non-conforming material must not be

accepted until a full analysis has been conducted. If a container with questionable contents is returned to the service center, a sample will be taken and analysis will be performed at the recycling center, Safety-Kleen Tech Center (Elk Grove Village, Illinois) or other qualified lab according to the procedures outlined in Section A.3 of this attachment. The Branch Manager will be notified of any contamination that may have occurred.

Safety-Kleen trains personnel to verify the physical characteristics of the wastes at several points in the management of the solvent. These procedures are described briefly below.

Safety-Kleen controls the use and management of its solvents by:

1. Limiting the solvents stored to those compatible with one another and their containers;
2. Limiting the uses of each type of solvent for (example, dry cleaning waste is only collected from dry cleaner shops);
3. Determining the customer's type of business (i.e., the SIC code is recorded) and the purpose for which the customer will use the machine;
4. Training customers to use the machines properly;
5. Training employees to inspect the physical characteristics of used solvent and determine whether it is acceptable;
6. When waste is collected from a customer, indicate on the service document whether the used solvent meets Safety-Kleen's acceptance criteria;
7. Marking each container with the customer's name, address, and EPA I.D. number (if available). This information remains on containerized waste until it is accepted at the reclamation facility;
8. Keeping a record of each incoming and outgoing shipment in the operating log; and

Safety-Kleen's customers sign a service document containing the following information:

- a. the name, address and EPA I.D. number of the facility to which the waste is being shipped;
- b. the customer's name, address and EPA I.D. number (if available); and
- c. the description and amount of Safety-Kleen solvent waste generated.

In addition, each incoming and outgoing shipment is recorded in the facility's operating log.

If a waste is rejected at the time of service, the customer will be given a choice as to whether he will dispose of the waste himself or require Safety-Kleen's assistance. If he requests Safety-Kleen's assistance, a sample will be drawn using a Coli-wasa tube or similar sampling device to ensure representative samples. The sample will be analyzed for flash point and volatile organic compounds. If this analysis does not adequately define the constituents, additional analyses will be performed as necessary (e.g., semi-volatile organic compounds, PCBs, etc.).

The laboratory sends waste analyses results to the service center. If through the additional analysis the waste is determined to be acceptable at the branch, it will be relabeled, manifested and then managed with the other wastes. If it is determined through the additional analysis to not be acceptable, the waste will either be: (a) managed at the Service Center on a 10 day transfer basis and manifested to a properly permitted reclamation or disposal facility, or (b) manifested and shipped directly to a properly permitted reclamation or disposal facility. The analytical results from the additional characterization analysis will be used to appropriately manage the waste. The Branch Manager has the right to refuse any further service to a business which has returned waste that does not meet acceptable criteria.

A.2.1 Qualitative Waste Analysis

a. General Inspection Procedures:

Safety-Kleen visually inspects each drum of waste when it is collected at the customer's location. Safety-Kleen examines the waste for volume, appearance, consistency and odor and is intimately familiar with the characteristics of the waste it receives. Based on the known waste characteristics, Safety-Kleen has established the specific acceptance criteria set forth below, to be used by Safety-Kleen personnel in their visual inspections. These inspection procedures allow Safety-Kleen to ensure that the waste being picked up meets appropriate acceptance criteria.

If a particular drum of waste does not meet the acceptance criteria, the Safety-Kleen service representative will either (1) sample the waste for testing at a Safety-Kleen laboratory to determine whether the waste has been contaminated; or (2) reject the waste. In the event the waste is not sampled, Safety-Kleen will notify the generator's State Agency that is authorized to implement the RCRA hazardous waste management program (or EPA if the RCRA program has not been delegated to the State).

If the waste is sampled for further analysis, the service representative will collect a sample, then seal the drum and label it as hazardous waste. The drum is left with the customer pending the results of the laboratory tests. The laboratory testing initially involves analyzing the suspect waste for flash-point and the presence of volatile organic compounds. Pending those results, additional constituents may also be analyzed. The costs of any sampling and testing performed as a result of the waste failing to meet the acceptance criteria, will be borne by the customer.

If the laboratory analysis reveals that the sampled waste is not contaminated, Safety-Kleen will accept the waste from the customer. If the laboratory confirms that the waste is contaminated, the generator will be responsible for securing an alternate means of disposal or they may contract with Safety-Kleen to handle the waste on a ten-day transfer basis.

b. Waste Specific Criteria:

The following is a description of the specific acceptance criteria for each waste stream.

1. Used solvent:

The acceptance criteria for determining by visual inspection whether used solvent has been contaminated are volume, odor and color, the most significant of which is volume. If the volume of waste in a given drum exceeds the specified level, the Safety-Kleen service representative will conduct an inquiry of the customer's operation and handling procedures. Contingent on the customer's responses, the solvent may be accepted, a sample of the waste may be collected for laboratory testing as described above, or the waste may be rejected.

In addition to the volume criterion, the odor of the used solvent may typically indicate whether the waste has been contaminated. Used solvent has a distinctive odor. The service representatives are expressly instructed not to deliberately sniff the waste. However, if the solvent has been contaminated the service representative may notice a difference in the odor when he services the machine.

The used solvent is also visually inspected for its color. Unused solvent typically has a clear or greenish tint. As the solvent is used, it turns brown in color. The more it is used, the darker brown it becomes, until it is almost black. In the case of a print shop, the solvent may be clear, green, brown, black, or many colors. Therefore, if the used solvent does not appear to be the expected color, the service representative will sample the waste for possible contamination as described above, or will reject the waste.

2. Immersion Cleaner:

The criteria for the inspection of used immersion cleaner are volume and color. If the volume of waste exceeds the specified level a sample will be tested for contamination following the procedures described above or the waste will be rejected.

Unused immersion cleaner is amber in color. As the solvent is used, it turns brown in color. The more it is used, the darker brown it becomes, until it is almost black. If the used immersion cleaner does not appear to be the expected color, the service representative will either sample the waste for possible contamination as described above, or reject the drum of waste.

3. **Dry Cleaner Wastes:**

Dry cleaner wastes normally consist of used filter cartridges, powder residue, and still bottoms.

a. **Used Filter Cartridges:**

Used filter cartridges are placed in containers meeting DOT specifications. It is obvious to the service representative whether the items in the drums are filter cartridges. The drums may also contain approximately one inch of liquid which should either be clear or have a light brownish tint. If the amount of the liquid is greater than approximately one inch or if the liquid is a color other than light brown, the service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

b. **Powder Residue:**

The criteria for the acceptance of powder residue are consistency and color, the former being the more significant criterion of the two. A drum of powder residue should not contain any liquid. As the name implies, it will be dry or "powdery". If there is any liquid in the drum, the waste will be sampled for contamination in accordance with the procedures described above, or the waste will be rejected.

The powder residue is also inspected for color and should appear to be grayish-black. If the residue is not grayish-black in color, the service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

- c. **Still Bottoms:**
The criteria for the acceptance of dry cleaning still bottoms are consistency and color. The waste should have a highly viscous, tar-like consistency. If the consistency of the waste is too thin or if there is more than one inch of free liquid in the drum, the waste will be sampled for contamination in accordance with the procedures described above, or will be rejected.

In addition to consistency, the still bottom waste is inspected for color. The waste should appear dark brown or black in color. If the waste is a different color, a service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

4. **Paint Wastes:**

Safety-Kleen handles both lacquer thinner waste generated from the paint gun cleaning process and paint waste.

- a. **Lacquer Thinner Waste:**
The significant criterion for determining whether lacquer thinner waste will be accepted is volume. The solvent is provided to customers in pails which meet DOT requirements. The paint gun cleaning machine operates as a closed system where by there should never be a combined volume of more than the expected amount of solvent in the two collection pails. The solvent is pumped from a tube in a left hand pail (facing the machine) through the machine into the right hand pail. The left hand pail starts with clean solvent which will be pumped out as the machine is used to clean the spray guns. If a service representative discovers more than the expected amount of solvent in the two pails, or there is an overfill from the right hand pail, the waste will be sampled for contamination in accordance with the procedures described above, or the waste will be rejected.

b. **Paint Waste:**

b.1 **Liquid**

The significant criterion for the inspection of paint waste is consistency. The waste should contain no more than 30 percent solids. The service representative will insert a Colliwasa or similar sampling device into the drum. The sampling device should glide easily down to the bottom of the drum. The service representative will handle this waste as a Class 3 flammable waste. If there is resistance to the insertion of the glass tube, it is assumed that the level of solids is in excess of 30 percent and the service representative will reject the waste.

The contents of the glass tube are also visually examined for consistency and water content. The material should be a "free flowing" liquid, but should not contain a significant amount of water. If there is more than approximately 10 inches of water in the 3 foot tube (the water and paint will separate in the tube and thus can be measured) the waste will be rejected.

b.2 **Solid:**

For waste containing more than 30 percent solids the service representative will handle the waste as a Class 4 flammable waste.

5. **Photographic/Imaging Waste**

Photographic/Imaging waste is collected from facilities where one process is managed and the possibility of cross contamination is minimal. The sales representative inspects

the contents of the containers of photographic/imaging waste when the sales representative services the customer. The pH and silver content of the waste is checked at the time of service, and the waste is also inspected visually.

A.3 WASTE ANALYSES AT THE RECYCLE CENTER OR QUALIFIED LABORATORY

Analyses performed at the Safety-Kleen recycle centers are undertaken to safeguard the recycling process and to assure a product quality. The following section summarizes the waste analyses practiced at the recycle center for the hazardous materials returned from the Albuquerque branch. For each waste type stored at the branch, at least the following analyses must be performed annually (annual re-characterization analysis). If a particular waste stream is not managed at the service center during the previous year, no re-characterization analysis is performed. Copies of the results for the annual analyses must be maintained at the branch office for the life of the permit. A copy of the most recent re-characterization analysis is contained in Attachment A-1.

A.3.1 Solvents

- Flash point (must be greater than 90°F).

If the flashpoint is unacceptable, the Albuquerque Branch Manager will be notified immediately and the load will receive appropriate special handling. If the results are acceptable, the following tests will be performed:

- Volatile Organic Analysis, using EPA Methods 8015, 8021, 8260, or approved equivalents.
- Physical appearance, including bottom sediment and water content
- Specific gravity
- pH
- Distillation performance

If any of these tests yield unacceptable results or indicate solvent contamination outside the normal range, the Branch Manager will be notified immediately.

In addition to the tests listed above, which will be performed on a representative sample from every load received at the recycle center from the Albuquerque service center, a full Toxicology Characteristic Leaching Procedure (TCLP) analysis for all 40 constituents, (except for pesticides and herbicides) will be performed at least once each calendar year.

A.3.2 Solvent Tank Bottom Sludge and Free Water

- Flash point (Must be greater than 90°F).
- Analysis for content of lead, cadmium, and chromium.
- pH

As described above for solvent, a full TCLP analysis (except for the pesticides and herbicides) will be performed on a representative sample at least once each calendar year.

A.3.3 Immersion Cleaner Solvent

Containers of waste immersion cleaner are typically characterized at the recycle center using the following criteria:

- Flash point
- Physical appearance
- Specific gravity
- Percent water
- Volatile Organic Analysis (using EPA methods 8015, 8021, 8260 or approved equivalents)

If any of these tests yield unacceptable results or indicate solvent contamination outside the normal range, the Branch Manager will be notified immediately. As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of immersion cleaner at least once each calendar year.

A.3.4 Dry Cleaning Solvent/Still Bottoms

- Physical appearance
- Volatile Organic Analysis for Perchloroethylene (using EPA methods 8015, 8021, 8260 or approved equivalents)
- Specific gravity

If any of these tests yield unacceptable results or indicate contamination outside the normal range, the Branch Manager will be notified immediately.

As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of dry cleaning waste at least once each calendar year.

A.3.5 Paint Waste

Paint wastes are generally characterized at the recycle center using the following criteria:

- Metals
- Flash points
- Physical appearance
- Specific gravity
- Percent water
- Volatile organic analysis (using EPA methods 8015, 8021, 8260, or approved equivalents)

As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of paint waste at least once each calendar year.

A.4 WASTE ANALYSIS PLAN UPDATE

This waste analysis plan will be modified when a new waste product is collected or when sampling and material management methods change. Revision of the plan is typically the responsibility of the Safety-Kleen corporate or regional compliance offices. Any revision to this plan will be in accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.42)

A.5 LAND BAN NOTIFICATION/CERTIFICATION FORMS

In accordance with 40 CFR 268.7(a)(2), Safety-Kleen provides a one time written notice for wastes banned for land disposal with the initial shipment. No further notification is necessary unless the waste changes. Safety-Kleen will provide the written notice for wastes banned from landfills as follows:

1. Printing the Notice language on manifests - such as for core-business customers to branch shipments; or
2. Special forms for each regularly handled waste types (e.g., parts washer solvents, immersion cleaner, dry cleaning wastes, etc); or
3. A general form that must be completed for unique or non-standard waste streams. These wastes will only be handled on a transfer basis in accordance with 40 CFR 263.12.

The notice is required paperwork for all Safety-Kleen waste types. Further, all wastes stored at the facility will have been characterized and appropriate notification made of LDR requirements, regardless of where the waste was generated and a copy of the required notice maintained in the facility record. Shipments lacking the proper Notice will not be accepted by any Safety-Kleen facility. When a shipment with the proper Notice is received, the notice is kept in the files of the receiving facility with the manifest or with the pre-print if a manifest is not used.

A.6 OPERATING LOG RECORD

Safety-Kleen maintains an operating log record on site which includes the following information as it becomes available:

1. A description and the quantity of each hazardous waste received, and the method and date of its storage as required by Pt. V. Sec. 264, Appendix I;
2. The location of hazardous waste within the facility and quantity;
3. Records and results of waste analyses performed;
4. Summary reports and details of all incidents that require implementing the contingency plan;
5. Records and results of inspections;
6. Monitoring, testing or analytical data and corrective action where required;
7. For off-site facilities, Notices to generators as specified in 264.12(b);
8. Closure and post-closure cost estimates;
9. A certification by the permittee no less often than annually, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste; and
10. The land ban notices and requirements. These records are kept on file at the facility.

A.7 WASTE DETERMINATION FOR SUBPART BB AND CC COMPLIANCE

For purposes of waste determination, this facility utilizes knowledge of the wastes described in Section A.1, A.2 and A.3 above. For those hazardous wastes which are managed on a transfer basis, the Subpart CC regulation does not apply. However, the owner/operator may use knowledge of the waste based on information included in manifests, shipping papers, or waste certification notices to confirm waste determination for the generator or the ultimate receiving facility.

Based upon this knowledge, it has been determined that all wastes managed in tanks or containers at this facility may display an average volatile organic concentration of greater than 500 ppmw at the point of waste origination. Documentation of this knowledge is provided in Attachment A-1 (waste characterization analytical results), as required in 40 CFR 264.1063(d) and 264.1083. Therefore, hazardous wastes managed in tanks or containers at this facility shall be managed in accordance with the applicable Subpart CC standards.

Table A-1

Parameters And Rationale For Hazardous Waste Analysis

| Hazardous Waste | Parameter* | Rationale |
|---------------------------|--|---|
| 1. Spent Solvents | Flash Point | Ignitable Characteristic (D001) |
| | TCLP | Contains components which exceed the limits listed in 40 CFR 261.24 |
| | Hazardous Constituent Concentration | Determination of Waste's LDR Status |
| 2. Solvent Tank Bottoms | Same as number 1 | Same as number 1 |
| | Hazardous Constituent Concentration | Determination of Waste's LDR Status |
| 3. Used Immersion Cleaner | TCLP | Contains components which exceed the limits listed in 40 CFR 261.24 |
| | Hazardous Constituent Concentration | Determination of Waste's LDR Status |
| 4. Dry Cleaning Wastes | Perchloroethylene, 1,1,2-trichloro-1,1,2,2-trifluoroethane | Contains this ingredient (F002) |
| | TCLP | Contains components which exceed the limits listed in 40 CFR 261.24 |
| | Flash Point | Ignitable Characteristic (D001) |
| | Hazardous Constituent Concentration | Determination of Waste's LDR Status |

Notes: TCLP = Toxicity Characteristic Leaching Procedure.

* Earlier sample analyses indicated the parameters listed are the only ones of concern.

Table A-2

Parameters And Test Methods

| Parameter | Test Method | Reference |
|---|---|--|
| Flash Point | Setaflash closed cup tester | U.S. EPA SW 846, Third Ed., Method 1020 (ASTM Method D327-78) or an equivalent method. |
| Hydrocarbons, Volatile and Semivolatile Organic Compounds LDR Constituents | Gas Chromatography (GC) and/or Mass Spectroscopy | U.S. EPA Methods 8010, 8015, 8020, 8120, 8240, and/or 8270 or equivalent methods. |
| Toxicity Characteristics | TCLP if necessary, followed by 1310 or (3010, 7760) then 6010 and 1310 then 7470. | 40 CFR 261, Appendix II; 55 FR 11798 (March 29, 1990) |

Table A-3

Methods To Sample Hazardous Wastes

| Hazardous Waste | Reference for Sampling | Description of Sampling Method | Sampler |
|----------------------------|--|--|--|
| 1. Spent Solvents | Sampling a tank "Samples & Sampling Procedures for Hazardous Waste Streams" EPA - 600/2-80-018 and Safety-Kleen training, ET-143, "Sampling Hazardous Materials and Wastes". | Test Methods for the Evaluation of Solid Waste Physical/ Chemical Methods, SW846, U.S. EPA Chapter One, et. seq. And Safety-Kleen Training ET-143, "Sampling Hazardous Materials and Wastes" | Coliwasa Tube, Weighted Bottle Sampler, Pond Sampler, Trier, Large Trier, Auger, Grain Thief, or Scoop as appropriate. |
| 2. Solvent Tank Bottoms | Same as number 1 | Same as number 1 | Same as number 1 |
| 3. Spent Immersion Cleaner | Same as number 1 | Same as number 1 | Same as number 1 |
| 4. Dry Cleaning Wastes | Same as number 1 | Same as number 1 | Same as number 1 |

Table A-4
Frequency of Analysis

| Hazardous Waste | Analysis* | Frequency |
|---------------------------|--|-------------------|
| 1. Spent Solvents | Flash Point | At least annually |
| | TCLP | At least annually |
| 2. Solvent Tank Bottoms | Flash Point | At least annually |
| | TCLP | At least annually |
| 3. Used Immersion Cleaner | TCLP | At least annually |
| 4. Dry Cleaning Wastes | Perchloroethylene, 1,1,2-trichloro-1,1,2,2-trifluoroethane | At least annually |
| | TCLP | At least annually |
| | Flash Point | At least annually |

Notes: TCLP = Toxicity Characteristic Leaching Procedure.

* Past analyses have indicated the parameters listed are the only ones of concern.

ATTACHMENT A-1
ANNUAL RE-CHARACTERIZATION DATA

WASTE ANALYSIS PLAN

ABSTRACT

| Waste Description | EPA Waste Code No. | Facility Capacity ¹ (gallons) | Annual Amount ² |
|----------------------------------|-------------------------------|---|----------------------------|
| Used Solvents | D001 ³ | 12,000 | 143 |
| Tank/Dumpster Bottom Sediment | D001 ³ | N/A | 3 |
| Used Immersion Cleaner | See Below ³ | 6,990 | 3 |
| Dry Cleaning Waste | F002 ³ | Included with Used Immersion Cleaner | 6 |
| Used Solvent (aqueous) | See Below ³ | Included with Used Immersion Cleaner | 3 |
| Paint Waste | D001, F003, F005 ³ | 9,650 | 14 |
| Photo Chemical Wastes | D011 | Included with Used Immersion Cleaner | 3 |

¹ The facility capacity is in gallons.

² The annual amount is in thousands of gallons.

³ and may include D004, D005, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043.

The Facility shall store only wastes it is authorized to store. That is, Safety-Kleen will only store wastes included in Part A of the application for hazardous waste permit and not otherwise prohibited by the permit. Safety-Kleen will not store any hazardous waste for more than one year.

These waste streams are characterized annually as described in the "Statistical Analysis of Annual Waste Characterization Data", attached and incorporated herein by reference. (The most recent data are also included.)

The testing and sampling methodology is as described in A.3, below. The data generated in this process is used to assign waste codes, if any, for each waste stream. The data generated in the annual recharacterization (AR) is also used to assist recycle centers in recycling or treating the waste streams. Recycle centers also rely on their own waste analysis plans to generate data to recycle materials and or dispose of waste. If while providing service to a customer if there is suspicion that the waste does not meet the acceptance criteria, the waste will not be picked up and the customer must provide information explaining what is in the waste and how the waste was adulterated. Please see the text below in this waste analysis plan.

Providing service to Safety-Kleen customers is dependent on a review of the customer business. If the business is a typical generator of that waste stream (for example, a garage generating parts washer waste), then limited review is performed. If the business is not a typical generator of that waste stream or if the business has other processes on site, a more detailed review of the business is performed and a certification from the customer is required stating the waste will be as described without adulterants. For example, laboratory analysis of that customer's waste may be required.

In this AR process, regulated hazardous constituents and reasonably expected underlying hazardous constituents (UHC)s are also discovered. UHC which is discovered in the annual recharacterisation will be assumed to expected throughout the waste stream. The applicable constituent concentration or technology based treatment standards for the wastes and / or individual hazardous constituents will be identified, if required by regulation, on the LDR generated from this data. The LDRs generated in this process also identify whether the waste must be treated before being land disposed when required by regulation.

AR data is used to update subpart BB and Subpart CC plans (see these plans elsewhere in this permit application). It is anticipated that minor changes in the waste streams are unlikely to significantly change in air emissions.

Recycle centers test every shipment of waste for PCBs. If a shipment is discovered to contain PCBs, the source of the PCBs is traced and appropriate 40 CFR 761 requirements are implemented. Any equipment contaminated by PCBs is removed from service decontaminated cleaned before being put into service.

The Safety-Kleen transportation department is responsible for selecting packaging for Safety-Kleen waste streams, in addition to their responsibility for company compliance with Federal, State, and local transportation regulations and rules. The transportation department has selected packaging based on past waste recharacterizations and continue to review AR and other data to maintain compliance with material packaging requirements.

A.1 DESCRIPTION OF WASTES

Several types of waste result from the servicing of Safety-Kleen customers and the maintenance of the service center. It should be noted that the solvents managed at this facility are incompatible with strong oxidizers and reactive metals, none of which are present in the containers, container storage area, or the concrete sealant. The solvents are also compatible with one another. Analytical data for the wastes and specifications for the products are in Attachment A-1 and qualitative descriptions follow.

A.1.1 Wastes Resulting From the Parts of Washer Service

Used solvents from parts washers is accumulated in a 12,000 gallon underground, storage tank via the return and fill station. Containers of used material are poured into a dumpster at the return and fill station which in turn empties into the tank. This waste handling method results in several types of solvent waste:

- a. Used solvent - The used solvent is removed from the tank by a tanker truck on a scheduled basis. About 5,000 gallons are removed every month. This waste is ignitable (D001) and may exhibit the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.
- b. Bottom sediment in the tank - Approximately once every two years, it is necessary to remove sediment and other heavy material from the bottom of the tank. A Safety-Kleen vacuum truck is generally used for this purpose. The sediment is ignitable (D001) and may exhibit the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.
- c. Dumpster Sediment - Sediment may also accumulate in the drum washers in the return/fill station. The sediment is manually removed and placed in containers. The dumpster sediment is representative of the waste codes described in items a and b above.
- d. Used Aqueous Parts Cleaning Solvent - may be bulked at the service center into containers that meet DOT specifications or may be co-mingled with the other solvent into the used solvent tank. It may be toxic using the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.
- e. Immersion Cleaner - is a different type of solvent that is not placed in the underground storage tank. Containers of immersion cleaner typically remain in the drum in which it was originally used until it is received at the recycle center. Drums are placed in the drum storage area of the warehouse and are stacked no more than two-high in the drum storage area of the warehouse.

The immersion cleaner is a non-halogenated hydrocarbon mixture and may exhibit the toxic characteristics of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040 D041, D042, and D043.

A.1.2 Wastes Resulting From the Dry Cleaner Service

Dry cleaning wastes consist of used filter cartridges, powder residue from diatomaceous or other powder filter systems and still bottoms. These wastes are packaged on the customer's premises in containers meeting DOT specifications. The containers are then palletized, stacked two-high and placed in the container storage area of the warehouse. Approximately 95% of the dry cleaning solvent used is perchloroethylene (F002 and D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043) and the remaining 5% is trichloro-trifluoroethane (F002) and toxic using the characteristic leaching procedure (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043).

A.1.3 Wastes Resulting From the Paint Service

Paint wastes consist of various lacquer thinners (D001, F003, and F005) and may be toxic as per the characteristic leaching procedure (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043). The wastes are collected in containers which meet DOT requirements at the customer's place of business and containers are then palletized and stored in an enclosed concrete masonry building (the H-3 Flammable Storage Building).

A.1.4 Photographic/Imaging Wastes

Some photographic imaging wastes managed by the facility are not solid wastes per 40 CFR 261.2(c) because their hazardous constituent is reclaimed. Others are managed under the provisions of Subpart F of 40 CFR 266 – Recyclable Materials Utilized for Precious Metals Recovery. Imaging waste consists typically of three waste streams. Photo fixer solution is an aqueous solution used to etch photo film during processing. This material is characteristic for silver (D011). Safety-Kleen is able to recover the silver from the solution. Used Photo developer is an aqueous solution that exhibits no hazardous waste characteristics but may not be allowed to discharge into public wastewater treatment systems in some communities. Silver collection canisters are sent to a recycle center for reclamation. These canisters do not meet the definition of a hazardous waste as per 40 CFR 260.30(c) and are managed as a non-regulated material.

A.2 QUALITY CONTROL PROCEDURES

The used solvents are the primary feed stocks for the generation of Safety-Kleen solvent products. As a result, quality control of the used solvents is necessary to ensure that reclamation occurs in the safest and most efficient manner possible. The service center collects used solvents from approximately 1,100 customers, most of who are small quantity generators, and an estimated 14,000 drums containing recoverable solvents are returned to the service center each year for shipment to a reclaimer. With such large numbers of waste generators and waste shipments, performing detailed analyses at the service center is economically and logistically infeasible.

Furthermore, as discussed earlier in the Facility Description, all the materials collected at the service center are managed at all times in a closed loop system and are usually collected from a company with a single process. The composition and quality of these materials are known and Safety-Kleen's operating experiences have shown that the collected materials rarely deviate from company specifications. As an additional safeguard, Safety-Kleen personnel are instructed to inspect all materials before returning them to the service centers as described in Section A.2.1. This mode of operation has been proven to safeguard the recycling process and maintain a quality product.

However, in accordance with 20.4.1.500 NMAC (incorporating 40 CFR (a)(3)(i), Safety-Kleen will perform physical and chemical analysis of a waste stream when it is notified or has reason to believe that the process or operation generating the waste has changed, or when the result of inspection indicates that the waste collected does not match that designated. It is Safety-Kleen's practice that suspected non-conforming material must not be

accepted until a full analysis has been conducted. If a container with questionable contents is returned to the service center, a sample will be taken and analysis will be performed at the recycling center, Safety-Kleen Tech Center (Elk Grove Village, Illinois) or other qualified lab according to the procedures outlined in Section A.3 of this attachment. The Branch Manager will be notified of any contamination that may have occurred.

Safety-Kleen trains personnel to verify the physical characteristics of the wastes at several points in the management of the solvent. These procedures are described briefly below.

Safety-Kleen controls the use and management of its solvents by:

1. Limiting the solvents stored to those compatible with one another and their containers;
2. Limiting the uses of each type of solvent for (example, dry cleaning waste is only collected from dry cleaner shops);
3. Determining the customer's type of business (i.e., the SIC code is recorded) and the purpose for which the customer will use the machine;
4. Training customers to use the machines properly;
5. Training employees to inspect the physical characteristics of used solvent and determine whether it is acceptable;
6. When waste is collected from a customer, indicate on the service document whether the used solvent meets Safety-Kleen's acceptance criteria;
7. Marking each container with the customer's name, address, and EPA I.D. number (if available). This information remains on containerized waste until it is accepted at the reclamation facility;
8. Keeping a record of each incoming and outgoing shipment in the operating log; and

Safety-Kleen's customers sign a service document containing the following information:

- a. the name, address and EPA I.D. number of the facility to which the waste is being shipped;
- b. the customer's name, address and EPA I.D. number (if available); and
- c. the description and amount of Safety-Kleen solvent waste generated.

In addition, each incoming and outgoing shipment is recorded in the facility's operating log.

If a waste is rejected at the time of service, the customer will be given a choice as to whether he will dispose of the waste himself or require Safety-Kleen's assistance. If he requests Safety-Kleen's assistance, a sample will be drawn using a Coliwasa tube or similar sampling device to ensure representative samples. The sample will be analyzed for flash point and volatile organic compounds. If this analysis does not adequately define the constituents, additional analyses will be performed as necessary (e.g., semi-volatile organic compounds, PCBs, etc.).

The laboratory sends waste analyses results to the service center. If through the additional analysis the waste is determined to be acceptable at the branch, it will be relabeled, manifested and then managed with the other wastes. If it is determined through the additional analysis to not be acceptable, the waste will either be: (a) managed at the Service Center on a 10 day transfer basis and manifested to a properly permitted reclamation or disposal facility, or (b) manifested and shipped directly to a properly permitted reclamation or disposal facility. The analytical results from the additional characterization analysis will be used to appropriately manage the waste. The Branch Manager has the right to refuse any further service to a business which has returned waste that does not meet acceptable criteria.

A.2.1 Qualitative Waste Analysis

a. General Inspection Procedures:

Safety-Kleen visually inspects each drum of waste when it is collected at the customer's location. Safety-Kleen examines the waste for volume, appearance, consistency and odor and is intimately familiar with the characteristics of the waste it receives. Based on the known waste characteristics, Safety-Kleen has established the specific acceptance criteria set forth below, to be used by Safety-Kleen personnel in their visual inspections. These inspection procedures allow Safety-Kleen to ensure that the waste being picked up meets appropriate acceptance criteria.

If a particular drum of waste does not meet the acceptance criteria, the Safety-Kleen service representative will either (1) sample the waste for testing at a Safety-Kleen laboratory to determine whether the waste has been contaminated; or (2) reject the waste. In the event the waste is not sampled, Safety-Kleen will notify the generator's State Agency that is authorized to implement the RCRA hazardous waste management program (or EPA if the RCRA program has not been delegated to the State).

If the waste is sampled for further analysis, the service representative will collect a sample, then seal the drum and label it as hazardous waste. The drum is left with the customer pending the results of the laboratory tests. The laboratory testing initially involves analyzing the suspect waste for flash-point and the presence of volatile organic compounds. Pending those results, additional constituents may also be analyzed. The costs of any sampling and testing performed as a result of the waste failing to meet the acceptance criteria, will be borne by the customer.

If the laboratory analysis reveals that the sampled waste is not contaminated, Safety-Kleen will accept the waste from the customer. If the laboratory confirms that the waste is contaminated, the generator will be responsible for securing an alternate means of disposal or they may contract with Safety-Kleen to handle the waste on a ten-day transfer basis.

b. Waste Specific Criteria:

The following is a description of the specific acceptance criteria for each waste stream.

1. Used solvent:

The acceptance criteria for determining by visual inspection whether used solvent has been contaminated are volume, odor and color, the most significant of which is volume. If the volume of waste in a given drum exceeds the specified level, the Safety-Kleen service representative will conduct an inquiry of the customer's operation and handling procedures. Contingent on the customer's responses, the solvent may be accepted, a sample of the waste may be collected for laboratory testing as described above, or the waste may be rejected.

In addition to the volume criterion, the odor of the used solvent may typically indicate whether the waste has been contaminated. Used solvent has a distinctive odor. The service representatives are expressly instructed not to deliberately sniff the waste. However, if the solvent has been contaminated the service representative may notice a difference in the odor when he services the machine.

The used solvent is also visually inspected for its color. Unused solvent typically has a clear or greenish tint. As the solvent is used, it turns brown in color. The more it is used, the darker brown it becomes, until it is almost black. In the case of a print shop, the solvent may be clear, green, brown, black, or many colors. Therefore, if the used solvent does not appear to be the expected color, the service representative will sample the waste for possible contamination as described above, or will reject the waste.

2. Immersion Cleaner:

The criteria for the inspection of used immersion cleaner are volume and color. If the volume of waste exceeds the specified level a sample will be tested for contamination following the procedures described above or the waste will be rejected.

Unused immersion cleaner is amber in color. As the solvent is used, it turns brown in color. The more it is used, the darker brown it becomes, until it is almost black. If the used immersion cleaner does not appear to be the expected color, the service representative will either sample the waste for possible contamination as described above, or reject the drum of waste.

3. Dry Cleaner Wastes:

Dry cleaner wastes normally consist of used filter cartridges, powder residue, and still bottoms.

a. Used Filter Cartridges:

Used filter cartridges are placed in containers meeting DOT specifications. It is obvious to the service representative whether the items in the drums are filter cartridges. The drums may also contain approximately one inch of liquid which should either be clear or have a light brownish tint. If the amount of the liquid is greater than approximately one inch or if the liquid is a color other than light brown, the service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

b. Powder Residue:

The criteria for the acceptance of powder residue are consistency and color, the former being the more significant criterion of the two. A drum of powder residue should not contain any liquid. As the name implies, it will be dry or "powdery". If there is any liquid in the drum, the waste will be sampled for contamination in accordance with the procedures described above, or the waste will be rejected.

The powder residue is also inspected for color and should appear to be grayish-black. If the residue is not grayish-black in color, the service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

c. **Still Bottoms:**

The criteria for the acceptance of dry cleaning still bottoms are consistency and color. The waste should have a highly viscous, tar-like consistency. If the consistency of the waste is too thin or if there is more than one inch of free liquid in the drum, the waste will be sampled for contamination in accordance with the procedures described above, or will be rejected.

In addition to consistency, the still bottom waste is inspected for color. The waste should appear dark brown or black in color. If the waste is a different color, a service representative will sample the waste for contamination in accordance with the procedures described above, or will reject the waste.

4. **Paint Wastes:**

Safety-Kleen handles both lacquer thinner waste generated from the paint gun cleaning process and paint waste.

a. **Lacquer Thinner Waste:**

The significant criterion for determining whether lacquer thinner waste will be accepted is volume. The solvent is provided to customers in pails which meet DOT requirements. The paint gun cleaning machine operates as a closed system where by there should never be a combined volume of more than the expected amount of solvent in the two collection pails. The solvent is pumped from a tube in a left hand pail (facing the machine) through the machine into the right hand pail. The left hand pail starts with clean solvent which will be pumped out as the machine is used to clean the spray guns. If a service representative discovers more than the expected amount of solvent in the two pails, or there is an overfill from the right hand pail, the waste will be sampled for contamination in accordance with the procedures described above, or the waste will be rejected.

b. **Paint Waste:**

b.1 **Liquid**

The significant criterion for the inspection of paint waste is consistency. The waste should contain no more than 30 percent solids. The service representative will insert a Colliwasa or similar sampling device into the drum. The sampling device should glide easily down to the bottom of the drum. The service representative will handle this waste as a Class 3 flammable waste. If there is resistance to the insertion of the glass tube, it is assumed that the level of solids is in excess of 30 percent and the service representative will reject the waste.

The contents of the glass tube are also visually examined for consistency and water content. The material should be a "free flowing" liquid, but should not contain a significant amount of water. If there is more than approximately 10 inches of water in the 3 foot tube (the water and paint will separate in the tube and thus can be measured) the waste will be rejected.

b.2 **Solid:**

For waste containing more than 30 percent solids the service representative will handle the waste as a Class 4 flammable waste.

5. **Photographic/Imaging Waste**

Photographic/Imaging waste is collected from facilities where one process is managed and the possibility of cross contamination is minimal. The sales representative inspects

the contents of the containers of photographic/imaging waste when the sales representative services the customer. The pH and silver content of the waste is checked at the time of service, and the waste is also inspected visually.

A.3 WASTE ANALYSES AT THE RECYCLE CENTER OR QUALIFIED LABORATORY

Analyses performed at the Safety-Kleen recycle centers are undertaken to safeguard the recycling process and to assure a product quality. The following section summarizes the waste analyses practiced at the recycle center for the hazardous materials returned from the Albuquerque branch. For each waste type stored at the branch, at least the following analyses must be performed annually (annual re-characterization analysis). If a particular waste stream is not managed at the service center during the previous year, no re-characterization analysis is performed. Copies of the results for the annual analyses must be maintained at the branch office for the life of the permit. A copy of the most recent re-characterization analysis is contained in Attachment A-1.

A.3.1 Solvents

- Flash point (must be greater than 90°F).

If the flashpoint is unacceptable, the Albuquerque Branch Manager will be notified immediately and the load will receive appropriate special handling. If the results are acceptable, the following tests will be performed:

- Volatile Organic Analysis, using EPA Methods 8015, 8021, 8260, or approved equivalents.
- Physical appearance, including bottom sediment and water content
- Specific gravity
- pH
- Distillation performance

If any of these tests yield unacceptable results or indicate solvent contamination outside the normal range, the Branch Manager will be notified immediately.

In addition to the tests listed above, which will be performed on a representative sample from every load received at the recycle center from the Albuquerque service center, a full Toxicology Characteristic Leaching Procedure (TCLP) analysis for all 40 constituents, (except for pesticides and herbicides) will be performed at least once each calendar year.

A.3.2. Solvent Tank Bottom Sludge and Free Water

- Flash point (Must be greater than 90°F).
- Analysis for content of lead, cadmium, and chromium.
- pH

As described above for solvent, a full TCLP analysis (except for the pesticides and herbicides) will be performed on a representative sample at least once each calendar year.

A.3.3 Immersion Cleaner Solvent

Containers of waste immersion cleaner are typically characterized at the recycle center using the following criteria:

- Flash point
- Physical appearance
- Specific gravity
- Percent water
- Volatile Organic Analysis (using EPA methods 8015, 8021, 8260 or approved equivalents)

If any of these tests yield unacceptable results or indicate solvent contamination outside the normal range, the Branch Manager will be notified immediately. As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of immersion cleaner at least once each calendar year.

A.3.4 Dry Cleaning Solvent/Still Bottoms

- Physical appearance
- Volatile Organic Analysis for Perchloroethylene (using EPA methods 8015, 8021, 8260 or approved equivalents)
- Specific gravity

If any of these tests yield unacceptable results or indicate contamination outside the normal range, the Branch Manager will be notified immediately.

As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of dry cleaning waste at least once each calendar year.

A.3.5 Paint Waste

Paint wastes are generally characterized at the recycle center using the following criteria:

- Metals
- Flash points
- Physical appearance
- Specific gravity
- Percent water
- Volatile organic analysis (using EPA methods 8015, 8021, 8260, or approved equivalents)

As described above, a full TCLP test (except for pesticides and herbicides) will be performed on a representative sample of paint waste at least once each calendar year.

A.4 WASTE ANALYSIS PLAN UPDATE

This waste analysis plan will be modified when a new waste product is collected or when sampling and material management methods change. Revision of the plan is typically the responsibility of the Safety-Kleen corporate or regional compliance offices. Any revision to this plan will be in accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.42)

A.5 LAND BAN NOTIFICATION/CERTIFICATION FORMS

In accordance with 40 CFR 268.7(a)(2), Safety-Kleen provides a one time written notice for wastes banned for land disposal with the initial shipment. No further notification is necessary unless the waste changes. Safety-Kleen will provide the written notice for wastes banned from landfills as follows:

1. Printing the Notice language on manifests - such as for core-business customers to branch shipments; or
2. Special forms for each regularly handled waste types (e.g., parts washer solvents, immersion cleaner, dry cleaning wastes, etc); or
3. A general form that must be completed for unique or non-standard waste streams. These wastes will only be handled on a transfer basis in accordance with 40 CFR 263.12.

The notice is required paperwork for all Safety-Kleen waste types. Further, all wastes stored at the facility will have been characterized and appropriate notification made of LDR requirements, regardless of where the waste was generated and a copy of the required notice maintained in the facility record. Shipments lacking the proper Notice will not be accepted by any Safety-Kleen facility. When a shipment with the proper Notice is received, the notice is kept in the files of the receiving facility with the manifest or with the pre-print if a manifest is not used.

A.6 OPERATING LOG RECORD

Safety-Kleen maintains an operating log record on site which includes the following information as it becomes available:

1. A description and the quantity of each hazardous waste received, and the method and date of its storage as required by Pt. V. Sec. 264, Appendix I;
2. The location of hazardous waste within the facility and quantity;
3. Records and results of waste analyses performed;
4. Summary reports and details of all incidents that require implementing the contingency plan;
5. Records and results of inspections;
6. Monitoring, testing or analytical data and corrective action where required;
7. For off-site facilities, Notices to generators as specified in 264.12(b);
8. Closure and post-closure cost estimates;
9. A certification by the permittee no less often than annually, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste; and
10. The land ban notices and requirements. These records are kept on file at the facility.

A.7 WASTE DETERMINATION FOR SUBPART BB AND CC COMPLIANCE

For purposes of waste determination, this facility utilizes knowledge of the wastes described in Section A.1, A.2 and A.3 above. For those hazardous wastes which are managed on a transfer basis, the Subpart CC regulation does not apply. However, the owner/operator may use knowledge of the waste based on information included in manifests, shipping papers, or waste certification notices to confirm waste determination for the generator or the ultimate receiving facility.

Based upon this knowledge, it has been determined that all wastes managed in tanks or containers at this facility may display an average volatile organic concentration of greater than 500 ppmw at the point of waste origination. Documentation of this knowledge is provided in Attachment A-1 (waste characterization analytical results), as required in 40 CFR 264.1063(d) and 264.1083. Therefore, hazardous wastes managed in tanks or containers at this facility shall be managed in accordance with the applicable Subpart CC standards.

Table A-1

Parameters And Rationale For Hazardous Waste Analysis

| Hazardous Waste | Parameter* | Rationale |
|---------------------------|--|---|
| 1. Spent Solvents | Flash Point | Ignitable Characteristic (D001) |
| | TCLP | Contains components which exceed the limits listed in 40 CFR 261.24 |
| | Hazardous Constituent Concentration | Determination of Waste's LDR Status |
| 2. Solvent Tank Bottoms | Same as number 1 | Same as number 1 |
| | Hazardous Constituent Concentration | Determination of Waste's LDR Status |
| 3. Used Immersion Cleaner | TCLP | Contains components which exceed the limits listed in 40 CFR 261.24 |
| | Hazardous Constituent Concentration | Determination of Waste's LDR Status |
| 4. Dry Cleaning Wastes | Perchloroethylene, 1,1,2-trichloro-1,1,2,2-trifluoroethane | Contains this ingredient (F002) |
| | TCLP | Contains components which exceed the limits listed in 40 CFR 261.24 |
| | Flash Point | Ignitable Characteristic (D001) |
| | Hazardous Constituent Concentration | Determination of Waste's LDR Status |

Notes: TCLP = Toxicity Characteristic Leaching Procedure.

* Earlier sample analyses indicated the parameters listed are the only ones of concern.

Table A-2

Parameters And Test Methods

| Parameter | Test Method | Reference |
|--|---|--|
| Flash Point | Setaflash closed cup tester | U.S. EPA SW 846, Third Ed., Method 1020 (ASTM Method D327-78) or an equivalent method. |
| Hydrocarbons, Volatile and Semivolatile Organic Compounds LDR Constituents | Gas Chromatography (GC) and/or Mass Spectroscopy | U.S. EPA Methods 8010, 8015, 8020, 8120, 8240, and/or 8270 or equivalent methods. |
| Toxicity Characteristics | TCLP if necessary, followed by 1310 or (3010, 7760) then 6010 and 1310 then 7470. | 40 CFR 261, Appendix II; 55 FR 11798 (March 29, 1990) |

Table A-3

Methods To Sample Hazardous Wastes

| Hazardous Waste | Reference for Sampling | Description of Sampling Method | Sampler |
|----------------------------|--|--|--|
| 1. Spent Solvents | Sampling a tank "Samples & Sampling Procedures for Hazardous Waste Streams" EPA - 600/2-80-018 and Safety-Kleen training, ET-143, "Sampling Hazardous Materials and Wastes". | Test Methods for the Evaluation of Solid Waste Physical/ Chemical Methods, SW846, U.S. EPA Chapter One, et. seq. And Safety-Kleen Training ET-143, "Sampling Hazardous Materials and Wastes" | Coliwasa Tube, Weighted Bottle Sampler, Pond Sampler, Trier, Large Trier, Auger, Grain Thief, or Scoop as appropriate. |
| 2. Solvent Tank Bottoms | Same as number 1 | Same as number 1 | Same as number 1 |
| 3. Spent Immersion Cleaner | Same as number 1 | Same as number 1 | Same as number 1 |
| 4. Dry Cleaning Wastes | Same as number 1 | Same as number 1 | Same as number 1 |

Table A-4

Frequency of Analysis

| Hazardous Waste | Analysis* | Frequency |
|---------------------------|--|-------------------|
| 1. Spent Solvents | Flash Point | At least annually |
| | TCLP | At least annually |
| 2. Solvent Tank Bottoms | Flash Point | At least annually |
| | TCLP | At least annually |
| 3. Used Immersion Cleaner | TCLP | At least annually |
| 4. Dry Cleaning Wastes | Perchloroethylene, 1,1,2-trichloro-1,2,2-trifluoroethane | At least annually |
| | | At least annually |
| | TCLP | At least annually |
| | Flash Point | At least annually |

Notes: TCLP = Toxicity Characteristic Leaching Procedure.

* Past analyses have indicated the parameters listed are the only ones of concern.

PROJECT 333-001

STORAGE FACILITY
PERMIT APPLICATION
SAFETY-KLEEN CORP. SERVICE CENTER
FARMINGTON, NEW MEXICO
NMD 980698849

Prepared for Safety-Kleen Systems, Inc.

By:

TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070

Original Permit Application:
Revised:
Revised:
Revised:
Permit Renewal Application

September 14, 1987
June 11, 1990
October 25, 1990
May 1994
October 4, 2000

October 4, 2000

Farmington, NM

CERTIFICATION STATEMENT
Farmington, New Mexico Service Center
NMD 980698849

The undersigned, being an authorized representative of Safety-Kleen Systems, Inc. the permit applicant, certifies under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Mike Crawford
Branch Manager

Date

ATTESTATION

The undersigned, attesting witness to the Certification Statement and this document dated, October 4, 2000, of which this affidavit is a part, states that I am personally responsible for the preparation of the document, that I personally gathered the information contained herein, and further that the information, to the best of my knowledge and belief, is true, accurate and complete.

Dan Czecholinski
Environmental Compliance Manager

Date

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October 4, 2000

Farmington, NM

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ATTACHMENT H FINANCIAL LIABILITY DOCUMENTS

October 4, 2000

Farmington, NM

1.0 FACILITY DESCRIPTION

ABSTRACT

CORPORATE HEADQUARTERS: Safety-Kleen Systems, Inc.
1301 Gervais Street
Columbia, SC 29201
(803) 933-4200

RESPONSIBLE OFFICIALS: Mike Crawford
Branch Manager

FACILITY ADDRESS: Safety-Kleen Systems, Inc. (7-008-21)
4210 A Hawkins Road
Farmington, New Mexico 87401

TELEPHONE NUMBER: (505) 327-9070

U.S. EPA I.D. NUMBER: NMD 980698849

GEOGRAPHIC LOCATION: 36° 44' 20" N
108° 14' 11" W

OWNER: COMET Corporation
1215 Brentwood Circle
Farmington, New Mexico 87401
(303) 884-2602 (505) 325-3743 (June 1992)

DATE OPERATIONS BEGAN: January 1, 1981

DESCRIPTION OF ACTIVITIES: This facility is an accumulation point for spent solvents generated by Safety-Kleen customers, the majority of whom are small quantity generators. All wastes are ultimately shipped to a Safety-Kleen recycling facility or a contract reclaimer and then returned to the Company's customers as product.

PROPERTY DESCRIPTION: 0.80 acres with the following structures:

- a. one building with offices and a warehouse for container storage;
- b. two aboveground storage tanks (one for product and one for spent solvent) with concrete diking; and
- c. one loading dock with a solvent return and fill station.

FACILITY TYPE: Storage in an aboveground tank (S02) and in containers (S01)

| STORAGE UNIT | CAPACITY (GAL.) | SECONDARY CONTAINMENT (GAL.) | MATERIAL TO BE STORED |
|----------------------|--------------------|---------------------------------|---|
| Tank | 12,000 | 18,266 | Spent Solvent (D001) ¹ |
| Container Storage | 3,820 | 382 | Spent Immersion Cleaner ¹ Dry Cleaning Waste (F002) ¹ Sediment from Tank Bottoms or Ancillary Equipment ¹ Aqueous Parts Washer Solvents ¹ Paint Wastes (D001, F002, F005) ¹ Photo Imaging Wastes (D011) ² |

Notes: ¹ Waste may also include the following waste codes: D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043

² Photo imaging wastes may not be considered a hazardous or solid waste if the hazardous constituent (silver) is reclaimed.

1.0 FACILITY DESCRIPTION

1.1 Description Of Business Activity

Safety-Kleen Systems, Inc. is an international service-oriented company whose customers are primarily engaged in automotive repair, industrial maintenance and dry cleaning. The company has been operating since 1968 offering solvent collection and reclamation services for its customers, more than 99% of whom generate less than 1000 kilograms (2200 pounds) per month.

Currently, Safety-Kleen offers several services, which involve the accumulation and storage of spent solvent at the Farmington Service Center. These wastes are shipped from the service center to a Safety-Kleen recycle center or to an independent reclaimer and are then returned to customers as usable product. A unique feature of this system is that Safety-Kleen retains ownership of the parts cleaning machines and the solvent. This "closed loop" system allows the Company to maintain control of the solvent except while it is in use at the customer's place of business. A description of typical services Safety-Kleen provides its customers is provided.

1.1.1 Parts Cleaner Service

The original service offered by the Company in 1968 was the parts cleaner service and it remains the primary business activity. This service involves the leasing of a small parts degreasing unit which consists of a sink affixed to a DOT-approved container (typically a 16- or 30 gallon drum) that contains Safety-Kleen Parts Washer Solvent. On a regularly scheduled basis, a Safety-Kleen sales representative cleans and inspects the parts washer machine and replaces the container of used solvent with one of clean product. Each sales representative performs about fifteen of these services per day, collecting the containers of used solvent on a route van.

At the end of each day, the solvent is transferred from the drums to a storage tank at the service center and containers of product are prepared for the next day's services. Periodically, a tanker truck is dispatched from one of the recycle centers to deliver a load of clean solvent and collect the spent solvent at the service center. Two-thirds of the solvent used by Safety-Kleen customers has been reclaimed with the remainder being purchased from a vendor.

Spent material is poured into the dumpster/drum washer in the return and fill station. It is then pumped into the used parts washer solvent storage tank. The sediment which accumulates in the bottom of the dumpster/drum washer is removed manually, drummed and stored in the return and fill station according to the satellite accumulation requirements of 40 CFR 262.34(b). The drummed sediment is manifested off-site prior to the expiration of the 90-day time frame for accumulation of hazardous waste.

Safety-Kleen has also established a parts cleaner service for users who own their machines. This service, known as the Customer Owned Machine Service, provides a solvent reclamation service to these customers regardless of machine model. The used solvent is pumped (using a hand pump) from the customer owned machine to a standard Safety-Kleen container which

meets DOT requirements (typically a 16 or thirty gallon container) by a Safety-Kleen sales representative. The waste solvent is stored in the same manner as the waste solvent collected from the leased parts cleaner machines. The sales representative then refills the customer-owned machine with Safety-Kleen parts washer solvent.

A second type of parts washer, the immersion cleaner, is available for the removal of varnish and gum from such things as carburetors and transmissions. This machine consists of an immersible basket with an agitator affixed to a DOT-approved container (typically a 16 gallon drum). The immersion cleaner is non-halogenated hydrocarbon mixture. The spent solvent remains in the drum after delivery to the service center where it is stored in a contained area of the warehouse. Periodically, a box trailer truck is dispatched from a recycle center to deliver containers of fresh solvent and collect the containers of spent immersion cleaner solvent for reclamation.

1.1.2 Dry Cleaner Service

In 1984, Safety-Kleen began offering a service for the collection of filter cartridges and still bottoms contaminated with dry cleaning solvents (usually perchloroethylene). These wastes are containerized on the customer's premises and are periodically collected by a sales representative. The containerized waste is accumulated in the container storage area prior to shipment to a Safety-Kleen recycle center contract reclaimer or other permitted facility. About 35% of this waste is returned to dry cleaners as usable product.

1.1.3 Paint Waste Collection Service

In 1986, a paint waste reclamation program was initiated to service automobile body repair businesses. Waste containing various thinners and paints are collected in DOT-approved containers on the customer's premises. The sales representative collects these containers and stores them in the container storage area of the warehouse. These wastes are periodically transported to a reclaimer and the regenerated solvent is distributed to Safety-Kleen customers for use as product.

1.1.4 Imaging/Photochemical Service

Imaging waste consists typically of three waste streams. Photo fixer solution is used to etch photo film during processing. This material is characteristic for silver (D011). Safety Kleen is able to recover the hazardous constituent from the photo fixer solution. Used photo developer is an aqueous solution used to neutralize the etching effects of the photo fixer. This material exhibits no hazardous characteristics but may not be discharged into public wastewater treatment system in some communities. Silver collection canisters are sent to a recycle center for silver reclamation. These canisters do not meet the definition of a solid waste per 40 CFR 260.30(c) and are managed as a non-regulated material.

The Imaging/Photochemical wastes are placed in containers at the customer's place of business. Several of these wastes are not considered hazardous or solid wastes because the hazardous constituent may be reclaimed. However, the sales representative collects these containers and stores them in the container storage area of the warehouse. The

imaging/photochemical wastes are then re-manifested and periodically sent to a Safety-Kleen recycle center, contract reclaimer or other permitted treatment facility.

1.2 Description Of The Facility

The Farmington service center has been operating as a storage facility since January 1, 1981. The facility consists of the following structures:

- a. 1,530 square foot warehouse with offices and a container storage area;
- b. two nominal 12,000 gallon aboveground storage tanks, with diking used for storage of product and waste solvents; and
- c. a solvent return and fill station with a loading dock, wet dumpster, drum washer (non-regulated, continued use unit), and secondary containment.

Descriptions of the surrounding area and of waste management practices at the service center follow. Applicable maps and facility drawings are in Attachment E.

1.2.1 Regional Description

The Farmington Service Center is located 600 feet northeast of the intersection of Troy King Road and West Main Street (U.S. Hwy 550) in San Juan County. This area is zoned industrial and to the best of Safety-Kleen's knowledge, no easements, title, deed, or usage restrictions exist which may conflict with operations at this site.

The western part of San Juan County is the Navajo Indian reservation. Eastern San Juan County, the location of Farmington, has a total area of 2,182,520 acres or 3,410 square miles. The total population of the area is approximately 50,000 with about 34,000 in Farmington. The major industries in Farmington are involved in the development of gas, oil and coal resources. Abundant rangeland contributed to the growth of the area through cattle raising and farming, however, this industry has largely declined.

Farmington has a continental climate with an average annual precipitation of 6 inches and total annual snowfall of 9 inches. The average temperature in winter is 44° F and the average summer temperature is 71° F. The average daily temperature range is 33 degrees. An average of 40 thunderstorms occur each year and prevailing winds are east-west.

San Juan County is in the San Juan Basin part of the Navajo section of the Colorado Plateau physiographic province. This area is a structural depression containing deep Tertiary till on rocks of late Cretaceous age. Farmington is located in the alluvial fan in the entrenched San Juan and Animas Rivers. The service center is not in the flood plain of either river. The elevation at the site is 5,470 feet above sea level. The San Juan River provides the principal drainage route for the area and the Animas River is its main tributary.

The soil in the area of the service center is the Avalon sandy loam. This is a deep well-drained soil on mesas and plateaus which formed in alluvial and eolian material derived from sandstone and shale. This soil is moderately permeable with slopes ranging from 5 to 8 percent.

The city of Farmington obtains its water primarily from the Animas River through two pump stations. Pump station 1 is located about two miles east of Farmington and pump station 2 and the Bee Line reservoir are several miles northeast of Farmington. Standby water is obtained from a pump station several miles south of Farmington on the San Juan River. The service center obtains water from the city of Farmington via a 6" water line on Hawkins Road. A drop inlet to the city storm sewer system is located approximately 500 feet west of the service center. Sewage is collected in a septic tank.

There are no known oil or gas wells within a mile of the service center. No parks, schools, wetlands, or critical habitats exist within one mile of the service center.

The non-building areas of the facility are paved with asphalt, concrete or gravel, as noted on the Site Plan in Attachment E. The majority of the vehicular traffic and loading/unloading operations occur at and near the return and fill station and this area is paved with asphalt and concrete. The entrance to the facility is on Hawkins Road which is the major access road to the facility. The access road was designed in accordance with engineering criteria appropriate for sustaining the traffic volume and loading for the industrial activities in this area. The route van that daily travels the routes between the service center and its customers uses the two-lane approach driveway. The trucks dispatched from the recycle center to deliver and pick up fresh and used solvents perform these activities at the aboveground tank area.

This permit application has been organized similar to the previous permit application to maintain consistency. The remaining sections of this permit application (Waste Analysis Plan, Preparedness, and Prevention Plan, etc.) are included in attachments A through H. Relevant information associated with each attachment is presented at the end of each respective attachment.

ATTACHMENT A
WASTE ANALYSIS PLAN

October 4, 2000

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Farmington, NM

WASTE ANALYSIS PLAN

ABSTRACT

| Waste EPA Waste Description | Facility Code Nos. | Annual Capacity ¹ | Amount ² |
|--|-------------------------------|---------------------------------|---------------------|
| Spent Solvents | D001 ³ | 12,000 | 50 |
| Bottom Sediment From the Tank and Ancillary Equipment | D001 ³ | N/A | 2 |
| Spent Immersion Cleaner | D001 ³ | 4,464 | 3 |
| Dry Cleaning Waste | D001, F002 ³ | | 6 |
| Paint Waste | F003, F005, D001 ³ | 4,464 | |
| Photo Chemical Wastes | D011 | 4,464 | |

NOTES:

¹ The facility capacity is in gallons.

² The annual amount is in thousands of gallons.

³ and may also include D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043

⁴ The total amount of drummed waste stored in the warehouse will not exceed 3,820 gallons.

WASTE ANALYSIS PLAN

A.1 Description Of Wastes

Several types of waste representing core Safety-Kleen Products result from the servicing of Safety-Kleen customers and the maintenance of the service center. Analytical data for the wastes and specifications for the products are in Attachment A.1 and qualitative descriptions follow.

A.1.1 Wastes Resulting From the Parts Washer Service

Used solvents from parts washers is accumulated in a nominal 12,000 gallon aboveground storage tank via the return and fill station. Containers of spent material (typically 16- and 30-gallon containers) are poured into a drum washer/dumpster at the return and fill station which in turn empties into the tank. Five types of parts washer waste are generally produced as a result of the parts washer service.

- a. Spent Solvent--The spent solvent is removed from the tank by a tanker truck on a scheduled basis. About 5,000 gallons are removed every month. This waste is ignitable (D001) and may exhibit the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043.
- b. Bottom Sediment in the Tank--Periodically, it is necessary to remove sediment and other heavy material from the bottom of the tank. A Safety-Kleen vacuum truck is generally used for this purpose. The sediment is ignitable (D001) and may exhibit the toxicity characteristic of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043.
- c. Drum Washer/Dumpster sediment--Sediment also accumulates in the bottom of the drum washers/dumpsters in the return and fill station. This sediment is removed manually with a shovel, containerized and the containers are stored in the Container Storage Area of the warehouse. Containers are properly labeled to indicate their contents. The chemical composition of this waste is very similar to that of the bottom sediment from the tank and therefore, carries the same EPA hazardous waste codes.
- d. Immersion Cleaner--remains in the container in which it was originally packaged and used until it is ultimately received at the recycle center. The immersion cleaner is a non-halogenated hydrocarbon mixture and may exhibit the toxicity characteristics of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043. The containers are properly labeled, placed on pallets and are stacked no more than 2 pallets high in the CSA of the warehouse.

- e. Aqueous Parts Cleaner Solvents: This waste may be placed into the used parts cleaner solvent tank as discussed above, bulked onsite in larger DOT approved containers and stored in the CSA, or remain in the container in which it was originally used. The aqueous parts cleaner may exhibit the toxicity characteristics of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043.

A.1.2 Wastes Resulting From the Dry Cleaner Service

Dry cleaning wastes consist of spent filter cartridges, separator water powder residue from diatomaceous or other powder filter systems and still bottoms. These wastes are packaged on the customer's premises in containers which meet DOT requirements (typically black 16-, 30-, or split 30-gallon containers). The containers are then palletized, stacked two-high and placed in the container storage area of the warehouse. Approximately 90% of the dry cleaning solvent used is perchloroethylene (F002 and D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043) and 5% is trichlorotrifluoroethane (F002) and may exhibit the toxicity characteristics of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043 and 5% is mineral spirits which would add the waste code D001. Other types of dry cleaning wastes (e.g. freon) will be managed on a transfer basis only.

Dry cleaner separator water is generated during the distilling of the used perchloroethylene. Perchloroethylene and water are separated during distilling. Separator water is typically less than 10 % perchloroethylene and is being handled as an F002 waste.

A.1.3 Paint Wastes

Paint wastes consist of various lacquer thinners (D001, F003, and F005) and paints. Paint wastes may also exhibit the toxic characteristics of D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043. The waste is collected in DOT-approved containers at the customer's place of business. The containers are then transported to the facility and stored in the container storage area of the warehouse.

A.1.4 Photographic/Imaging Wastes

Some photographic imaging wastes managed by the facility are not solid wastes per 40 CFR 261.2(c) because their hazardous constituent is reclaimed. Others are managed under the provisions of Subpart F of 40 CFR 266 – Recyclable Materials Utilized for Precious Metals Recovery. Imaging waste consists typically of three waste streams. Photo fixer solution is an aqueous solution used to etch photo film during processing. This material is characteristic for silver (D011). Safety-Kleen is able to recover the silver from the solution. Used Photo developer is an aqueous solution that exhibits no hazardous waste characteristics but may not be allowed to discharge into public wastewater treatment systems in some communities. Silver

collection canisters are sent to a recycle center for reclamation. These canisters do not meet the definition of a hazardous waste as per 40 CFR 260.30(c) and are managed as a non-regulated material.

A.2 Quality Control Procedures

The used solvents are the primary feed stocks for the generation of Safety-Kleen solvent products. As a result, quality control of the spent solvents is necessary to ensure that reclamation occurs in the safest and most efficient manner possible. The service center collects spent solvents from approximately 400 customers, most of whom are small quantity generators, and containers of recoverable solvents are returned to the service center for shipment to a reclaimer. With such large numbers of waste generators and waste shipments, performing detailed analyses at the service center is economically and logistically infeasible.

Furthermore, as discussed earlier in the Facility Description, the materials collected at the service center are managed at all times in the closed loop system and are usually collected from a company with a single process. The composition and quality of these materials are known and Safety-Kleen's operating experiences have shown that the collected materials rarely deviate from company specifications. As an additional safeguard, Safety-Kleen personnel are instructed to inspect all materials before returning them to the service centers. This mode of operation has been proven to safeguard the recycling process and maintain a quality product.

In accordance with HWMR 206.B.3, however, Safety-Kleen will perform physical and chemical analysis of a waste stream when it is notified or has reason to believe that the process or operation generating the waste has changed, or when the result of inspection indicates that the waste collected does not match that designated on the manifest or shipping documents. It is Safety-Kleen's practice that suspected non-conforming material must not be accepted until a full analysis has been done or the material must be rejected. Procedures to verify waste characteristics occur at several check points in the management of the solvent.

A.2.1 Parts Washer Service

Prior to leasing a parts cleaning machine, the customer's business activity is reviewed. Where the possibility exists for contamination of the parts washer solvents (e.g., pesticide, herbicide or pharmaceutical operations), the process is reviewed to insure that the solvent is protected from the potential sources of contamination.

Sales representatives are instructed to visually examine the spent solvents when the machines are serviced, noting the quantity, odor and appearance of the material recovered as follows:

- a. The quantity of used solvent in the containers—Normally the 16-gallon containers of spent mineral spirits contains approximately nine gallons of liquid, the 30-gallon drum about nineteen gallons and the 16-gallon containers of spent immersion cleaner about four and one-half gallons. When the amount of liquid is substantially different from the expected quantity, an inquiry of the customer's operation and handling procedures is

made. Contingent on the customer's responses, the solvent is accepted or left with the customer until analysis is completed to determine its acceptability.

- b. The odor of the liquid in the container—Should the odor of the liquid in the drum be different from that of the mineral spirits or immersion cleaner, the container is set aside for further action as described in item 'a'.
- c. The appearance of the liquid in the container—The used mineral spirits should be greenish-brown in color and float on water. The immersion cleaner is a single-phase liquid, which is dark brown in color. Liquids in the containers which deviate from the above descriptions, or which contain substantial amounts of water, high density solvent and/or oil at the bottom should be set aside for further action as described in item 'a'.

At the service center, the sales representative or the warehouseman again observes the quantity, odor and appearance of the solvent prior to emptying the solvent into the wet drum washer. Containers with questionable contents are set aside and the customer is questioned. Pending their response, the drum is accepted, returned to the customer, or properly disposed of at the customer's expense. The immersion cleaner containers are never opened at the service center, so additional verification is not possible until it reaches the recycle center.

A.2.2 Dry Cleaner Waste Collection Service

The dry cleaning wastes are collected from facilities where one process is managed and the possibility of cross-contamination from other chemicals or wastes is minimal. The containers are picked up by the sales representative and delivered to the service center and stored in the container storage area. The containers are not reopened until they reach the recycle center.

A.2.3 Paint Wastes

Safety-Kleen handles both lacquer thinner waste generated from the paint gun cleaning process and paint waste.

- a. Lacquer thinner waste: The significant criterion for determining whether lacquer thinner waste will be accepted is volume. The solvent is provided to customers in 5-gallon containers. The paint gun cleaning machine operates as a closed system whereby there should never be a combined volume of more than 7 ½ gallons of solvent in the containers. If a service representative discovers more than a total of 7 ½ gallons of solvent in the two containers, the waste will be rejected or sampled for analysis to determine its acceptability.
- b. Paint Waste: Paint wastes are collected from the facilities where one process is managed and the possibility of cross contamination from other chemicals or wastes is minimal. The contents of the containers are verified by the sales representative when he or she services the customer and the containers are not reopened until they reach the recycle center.

A.2.4 Photographic/Imaging Waste

Photographic/imaging waste is collected from facilities where one process is managed and the possibility of cross contamination is minimal. The sales representative inspects the contents of the containers of photographic/imaging waste when the sales representative services the customer. The pH and silver content of the waste is checked at the time of service, and the waste is also inspected visually.

A.3 Waste Analyses At The Recycle Center

Analyses performed at the Safety-Kleen recycle centers are undertaken to safeguard the recycling process and to assure the product quality. Each waste stream is re-characterized on an annual basis. If a particular waste stream was not handled at the facility during the previous year, no re-characterization analysis of the waste will be performed. The following tables summarize a typical waste analysis plan practiced at the recycle centers for the hazardous materials returned from the Farmington service center:

| | |
|-----------|---|
| Table A-1 | Parameters and Rationale for Hazardous Waste Analyses |
| Table A-2 | Parameters and Test Methods |
| Table A-3 | Methods Used to Sample Hazardous Wastes |
| Table A-4 | Frequency of Analysis |

These tables are included at the end of this waste analysis plan.

A.4 Waste Analysis Plan Update

This waste analysis plan will be modified when a new waste product is collected or when sampling and material management methods change. Revisions to the waste analysis plan will be provided to the facility manager and training will be conducted for appropriate personnel.

A.5 Land Ban Notification/Certification Forms

In accordance with 40 CFR 268.7, Safety-Kleen will provide notification/certification for wastes banned from landfills as follows:

- a. Printing the Notice language on the manifests - such as for core-business customers to branch shipments; or
- b. Special forms for each regularly handled waste type (e.g., MS, IC, perc, freon); or

- c. A general form that must be completed for unique or non-standard waste streams. These wastes will only be handled on a transfer basis, in accordance with 40 CFR 263.12.

The Notice is required paperwork for all Safety-Kleen waste types. Shipments lacking the proper Notice will not be accepted by any Safety-Kleen facility. When a shipment with the proper Notice is received, the Notice is kept in the files of the receiving facility with the manifest or with the pre-print if a manifest is not used.

A.6 Operating Log Record

Safety-Kleen maintains an operating log record on site which includes the following information as it becomes available:

- 1) A description and the quantity of each hazardous waste received, and the method and date of its storage as required by Pt. V. sec. 264, Appendix I;
- 2) The location of each hazardous waste within the facility and the quantity;
- 3) Records and results of waste analyses performed;
- 4) Summary reports and details of all incidents that require implementing the contingency plan;
- 5) Records and results of inspections;
- 6) Monitoring, testing or analytical data and corrective action where required;
- 7) For off-site facilities, Notices to generators as specified in 264.12(b);
- 8) All closure and post-closure cost estimates;
- 9) A certification by the permittee no less often than annually, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste;
- 10) The land ban notices and requirements. These records are kept on file in the resource recovery (May 1994) branch manager's office.

A.7 Waste Determination for Subpart BB and CC Compliance

For purposes of waste determination, this facility utilizes knowledge of the wastes described in Section A.1, A.2 and A.3 above. For those hazardous wastes which are managed on a transfer basis, the Subpart CC regulation does not apply. However, the owner/operator may use knowledge of the waste based on information included in manifests, shipping papers, or waste

certification notices to confirm waste determination for the generator or the ultimate receiving facility.

Based upon this knowledge, it has been determined that all wastes managed in tanks or containers at this facility may display an average volatile organic concentration of greater than 500 ppmw at the point of waste origination. Documentation of this knowledge is provided in Attachment A.1 (waste characterization analytical results), as required in 40 CFR 264.1063(d) and 264.1083. Therefore, hazardous wastes managed in tanks or containers at this facility shall be managed in accordance with the applicable Subpart CC standards.

Table A-1

Parameters And Rationale For Hazardous Waste Analysis

| Hazardous Waste | Parameter | Rationale |
|---------------------------|--|---|
| 1. Spent Solvents | Flash Point | Ignitable Characteristic (D001) |
| | TCLP | Contains components which exceed the limits listed in 40 CFR 261.24 |
| 2. Solvent Tank Bottoms | Same as number 1 | Same as number 1 |
| 3. Used Immersion Cleaner | TCLP | Contains components which exceed the limits listed in 40 CFR 261.24 |
| 4. Dry Cleaning Wastes | Perchloroethylene, 1,1,2-trichloro-1,1,2,2-trifluoroethane | Contains this ingredient (F002) |
| | TCLP | Contains components which exceed the limits listed in 40 CFR 261.24 |
| | Flash Point | Ignitable Characteristic (D001) |

Notes: TCLP = Toxicity Characteristic Leaching Procedure.

Earlier sample analyses indicated the parameters listed are the only ones of concern.

October 4, 2000

A-9

Farmington, NM

Table A-2

Parameters And Test Methods

| <u>Parameter</u> | <u>Test Method</u> | <u>Reference</u> |
|---|--|--|
| Flash Point | Setaflash closed cup tester | U.S. EPA SW 846, Third Ed., Method 1020 (ASTM Method D327-78) or an equivalent method. |
| Hydrocarbons, Volatile and Semivolatile Organic Compounds | Gas Chromatography (GC) and/or Mass Spectroscopy | U.S. EPA Methods 8010, 8015, 8020, 8120, 8240, and/or 8270 or equivalent methods. |
| Toxicity Characteristics | TCLP | 40 CFR 261, Appendix II; 55 FR 11798 (March 29, 1990) |

Table A-3

Methods To Sample Hazardous Wastes

| <u>Hazardous Waste</u> | <u>Reference for Sampling</u> | <u>Description of Sampling Method</u> | <u>Sampler</u> |
|-------------------------------|--|---|------------------------------|
| 1. Spent Solvents | Sampling a tank "Samples & Sampling Procedures for Hazardous Waste Streams" EPA - 600/2- 80-018 | Test Methods for the Evaluation of Solid Waste Physical/ Chemical Methods, SW846, U.S. EPA Section 1.2.1.1 | For tanks - Coliwasa Tube |
| 2. Solvent Tank Bottoms | Same as number 1 | Same as number 1 | Same as number 1 |
| 3. Spent Immersion Cleaner | Same as number 3 | Same as number 1 | Same as number 3 |
| 4. Dry Cleaning Wastes | Same as number 3 | Same as number 1 | Same as number 3 |

Table A-4

Frequency of Analysis

| <u>Hazardous Waste</u> | <u>Analysis</u> | <u>Frequency</u> |
|---------------------------|--|-------------------|
| 1. Spent Solvents | Flash Point | At least annually |
| | TCLP | At least annually |
| 2. Solvent Tank Bottoms | Flash Point | At least annually |
| | TCLP | At least annually |
| 3. Used Immersion Cleaner | TCLP | At least annually |
| 4. Dry Cleaning Wastes | Perchloroethylene, 1,1,2-trichloro-1,1,2,2,2-trifluoroethane | At least annually |
| | | At least annually |
| | TCLP | At least annually |
| | Flash Point | |

Notes: TCLP = Toxicity Characteristic Leaching Procedure.

* Past analyses have indicated the parameters listed are the only ones of concern.

ATTACHMENT A.1
ANNUAL RECHARACTERIZATION DATA

October 4, 2000

C:\Documents and Settings\hwb_is01\Desktop\SK\Permit Renewal Application - Farmington.doc

Farmington, NM

ATTACHMENT B
SECURITY MEASURES

October 4, 2000

C:\Documents and Settings\hwb_js01\Desktop\SK\Permit Renewal Application - Farmington.doc

Farmington, NM

SECURITY MEASURES

The facility is secured with a six-foot high chain link fence topped by three strands of barbed wire. All access gates are locked when the facility is unoccupied. Warning signs in English, Navajo and Spanish are placed on all sides of the fence stating "Caution – Hazardous Waste Area – Unauthorized Personnel Keep Out" which are visible from twenty-five feet. In addition, outdoor lights are on sensing devices that activate at low light conditions.

The office/warehouse building is secured with locks on all doors and warning signs are posted at all entrances to work and waste storage areas.

The tanks are enclosed in the secured, fenced area. The tank pump controls are outside the return and fill station. The pumps are not activated unless mineral spirits product or waste is being added to or removed from the tanks by Safety-Kleen personnel. The container storage area is also locked unless occupied by Safety-Kleen personnel. As a result the tanks and container storage area are accessible only by Safety-Kleen personnel. In addition, warning signs are posted on the return and fill station.

GANDY MARLEY, INC.

TRIASSIC PARK WASTE DISPOSAL FACILITY

OPERATING PERMIT

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ACRONYMS

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| ALR | action leakage rate |
| AOC | area of concern |
| CERCLA | Comprehensive Environmental Response Compensation and Liability Act |
| CFR | Code of Federal Regulations |
| CMS | Corrective Measures Study |
| CQA | Construction Quality Assurance |
| CS | confirmatory sampling |
| DOT | US Department of Transportation |
| EC | Emergency Coordinator |
| EPA | US Environmental Protection Agency |
| FR | Federal Register |
| FCAWP | Facility Corrective Action Work Plan |
| gpad | gallons per acre per day |
| gpm | gallons per minute |
| HDPE | high density polyethylene |
| HWA | New Mexico Hazardous Waste Act |
| IDW | investigation derived waste |
| IM | interim measures |
| kPa | kilopascal |
| LCRS | Leak Collection and Removal System |
| LDR | Land Disposal Restrictions |
| LDRS | Leachate Collection and Removal System |

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| NMAC | New Mexico Administrative Code |
| NMSA | New Mexico Statutes Annotated |
| NOD | Notice of Deficiency |
| NORM | naturally occurring radioactive materials |
| OSWER | (EPA) Office of Solid Waste and Emergency Response |
| PCB | polychlorinated biphenyl |
| ppm | parts per million |
| ppmw | parts per million by weight |
| QA/QC | quality assurance/quality control |
| RAP | Response Action Plan |
| RCRA | Resource Conservation and Recovery Act |
| Repl.Pamp. | Replacement Pamphlet |
| RFI | RCRA Facility Investigation |
| RI | remedy identification |
| RSI | Request for Supplemental Information |
| SAR | SWMU Assessment Report |
| SVOC | semivolatile organic compound |
| SWMU | Solid Waste Management Unit |
| TDS | treatment, storage, and disposal |
| TOC | total organic carbon |
| TPH | total petroleum hydrocarbons |
| TSS | total suspended solids |
| TSCA | Toxic Substances Control Act |
| UHC | underlying hazardous constituent |

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| U.S.C. | United States Code |
| UTS | Universal Treatment Standards |
| VOC | volatile organic compound |
| VZMS | vadose zone monitoring system |

PERMIT PART 1

GENERAL PERMIT CONDITIONS

HIGHLIGHTS

This Part sets forth the standards and conditions that every owner/operator of a hazardous waste storage, treatment, and/or disposal facility (TSDF) is required to meet, in order to manage, store, and dispose hazardous waste in a manner protective of human health and the environment under the New Mexico Hazardous Waste Act (the HWA) and the Resource Conservation and Recovery Act (RCRA).

1.1 EFFECT OF PERMIT

The Secretary of the New Mexico Environment Department (the Secretary) issues this permit to Gandy Marley, Inc., the owner and operator of the Triassic Park Waste Disposal Facility (Environmental Protection Agency (EPA) I.D. No. NM0001002484). This Permit authorizes Gandy Marley (the Permittee) to treat, store, and dispose of off-site hazardous waste at the Triassic Park Waste Disposal Facility (the Facility), and establishes the general and specific standards for these activities, pursuant to the New Mexico Hazardous Waste Act, NMSA 1978, 74-4-1 to 74-4-14 (Repl. Pamp. 2000) and the New Mexico Hazardous Waste Management Regulations, 20.4.1. NMAC.

Compliance with this Permit during its term shall constitute compliance, for purposes of enforcement, with Subtitle C of RCRA, and/or the HWA, and/or their implementing regulations. Compliance with this Permit shall not constitute a defense to any order issued or any action brought under Sections 74-4-10.E, 74-4-10.1, or 74-4-13 of the HWA; Sections 3008(a), 3013, 7002(a)(1)(B), or 7003 of RCRA; the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. 9601 et seq.; or any other law providing for protection of public health or the environment. This Permit does not convey any property rights or any exclusive privilege, nor authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local laws or regulations. [20.4.1.900 NMAC (incorporating 40 CFR 270.4(a) and 270.30(g))]

1.2 PERMIT ACTIONS

1.2.1 Term of Permit

This Permit shall be effective for a fixed term not to exceed ten years from the effective date of issuance as specified in the Permit certificate. [20.4.1.900 NMAC (incorporating 40 CFR 270.50(a))]

1.2.2 Permit Renewal

The Permittee may request a renewal of this Permit by submitting an application for a new Permit at least 180 calendar days before the expiration date of this Permit. In reviewing any application for a Permit renewal, the Secretary shall consider improvements in the state of control and measurement technology and changes in applicable regulations. [20.4.1.900 NMAC (incorporating 40 CFR 270.10(h) and 270.30(b))]

1.2.3 Permit Modification, Suspension, and Revocation

This Permit may be modified, suspended, and/or revoked for cause as specified at Section 74-4-4.2 of the HWA and 20.4.1.900 NMAC (incorporating 40 CFR 270.41, 270.42, and 270.43). The filing of a request by the Permittee for a Permit modification, suspension, or revocation, or the notification of planned changes or anticipated noncompliance, shall not stay any Permit Condition. [20.4.1.900 NMAC (incorporating 40 CFR 270.41)]

1.2.4 Transfer of Permit

The Permittee shall not transfer this Permit to any person except after providing notice to the Secretary and receiving approval from the Secretary for this action. The prospective new owner or operator shall file a disclosure statement with the Secretary prior to the transfer as required by Section 74-4-4.7 of the HWA and 20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(3)). The Secretary may require modification or revocation and reissuance of this Permit in accordance with 20.4.1.900 and 20.4.1.901 NMAC (incorporating 40 CFR 270.40(b) and 270.41(b)(2)).

Before transferring ownership or operation of the Facility during its active life or post-closure care period, the Permittee shall notify the new owner or operator in writing of the requirements of 20.4.1.900 NMAC (incorporating 40 CFR Part 270). [20.4.1.500 NMAC (incorporating 40 CFR 264.12(c))]

1.2.5 Permit Review

The Secretary shall review this Permit no later than five years after the effective date of the Permit, and shall modify the Permit as necessary, pursuant to Section 74-4-4.2 of the HWA and 20.4.1.900 NMAC (incorporating 40 CFR 270.41 and 270.50(d)). Such modification shall not extend the effective term of the Permit as specified at Permit Condition 1.2.1.

1.3 SEVERABILITY

The provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby. [40 CFR 124.16(a)(1) and (a)(2)]

1.4 DEFINITIONS

If, subsequent to the issuance of this Permit, federal or State regulations are promulgated which redefine any of the terms defined below, the Secretary may, at his or her discretion, apply the new definition to this Permit by modifying the Permit. [20.4.1.900 NMAC (incorporating 40 CFR 270.41(a)(3))]

For purposes of this Permit, terms used herein shall have the same meanings as those in the HWA, RCRA, and their implementing regulations unless this Permit specifically provides otherwise. Where a term is not defined in the HWA, RCRA, pursuant regulations, EPA guidelines or publications, or this Permit, the meaning associated with such a term is defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

- *Action leakage rate (ALR)* means the maximum design flow rate that a leak detection system can remove without the fluid head on the bottom liner exceeding one foot. [20.4.1.500 NMAC (incorporating 40 CFR 264.222(a) and 264.302(a))]
- *Area of Concern (AOC)* means any area may have a release of hazardous waste or hazardous constituents, which is not from a solid waste management unit and is suspected or determined by the Secretary to pose a threat to human health or the environment.
- *Debris* means solid material exceeding a 60 millimeter particle size that is intended for disposal and that is: a manufactured object; or

plant or animal matter; or natural geologic material. However, the following materials are not debris: any material for which a specific treatment standard is provided in 20.4.1.800 NMAC (incorporating 40 CFR 268, Subpart D), namely, lead acid batteries, cadmium batteries, and radioactive lead solids; process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and intact containers of hazardous waste that are not ruptured and that retain at least 75 percent of their original volume. A mixture of debris that has not been treated to the standards provided by 20.4.1.800 NMAC (incorporating 40 CFR 268.45) and other material is subject to regulation as debris if the mixture is comprised primarily of debris, by volume, based on visual inspection. [20.4.1.800 NMAC (incorporating 40 CFR 268.2(g))]

- *Evaporation pond* for purposes of this Permit means the Surface Impoundment at the Triassic Park Waste Disposal Facility.
- *Facility* for purposes of this Permit means the Triassic Park Waste Disposal Facility, including all contiguous land, and structures, other appurtenances, and improvements on the land used for the management of hazardous waste.
- *Free liquids* means liquids that readily separate from the solid portion of a waste under ambient temperature and pressure. [20.4.1.100 NMAC (incorporating 40 CFR 260.10)]
- *Hazardous constituent or constituents* means those constituents listed at 20.4.1.200 NMAC (incorporating 40 CFR 261, Appendix VIII). [20.4.1.800 NMAC (incorporating 40 CFR 268.2(b))]
- *Hazardous waste* means any hazardous waste identified at 20.4.1.200 NMAC (incorporating 40 CFR 261.3).
- *HWA* means the New Mexico Hazardous Waste Act, NMSA 1978, 74-4-1 to 74-4-14, the state statute governing hazardous waste management.

- *In light liquid service* (in light material service) means that the piece of equipment contains or contacts a waste stream where the vapor pressure of one or more of the organic components in the stream is greater than 0.3 kilopascals (kPa) at 20° C, the total concentration of the pure organic components having a vapor pressure greater than 0.3 kPa at 20° C is equal to or greater than 20 percent by weight, and the fluid is a liquid at operating conditions. [20.4.1.500 NMAC (incorporating 40 CFR 264.1031)]
- *Land Disposal Restrictions (LDR)* means the restrictions on the land disposal of hazardous waste in section 3004(b) through (m) of RCRA, 42 U.S.C. § 6924(b) through (m), and the NMAC 20.4.1.800 (incorporating 40 C.F.R. part 268).
- *Leachate* means any liquid, including any suspended components in the liquid that has percolated through or drained from hazardous waste. [20.4.1.100 NMAC (incorporating 40 CFR 260.10)]
- *Leak detection system (LDS)* means a system capable of detecting the failure of either the primary or secondary containment structure or the presence of a release of hazardous waste or accumulated liquid in the secondary containment structure. Such a system must employ operational controls (e.g., daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment structure or the presence of a release of hazardous waste into the secondary containment structure. [20.4.1.100 NMAC (incorporating 40 CFR 260.10)]
- *Nonwastewaters* mean wastes that do not meet the criteria for wastewaters provided at 20.4.1.500 NMAC (incorporating 40 CFR 268.2(f)). [20.4.1.800 NMAC (incorporating 40 CFR 268.2(d))]
- *Permittee* means Gandy Marley, Inc., 1109 East Broadway, P.O. Box 827, Tatum, Chaves County, New Mexico 88267.

- *Permitted unit* means any unit treating, storing or disposing of hazardous wastes and required to have a permit. [20.4.1.900 NMAC (incorporating 40 CFR 270.1(c))]
- *RCRA* means the federal Resource Conservation and Recovery Act, 42 U.S.C. 6901 to 6992k, the federal statute governing hazardous waste management.
- *Regulated unit* means a surface impoundment, waste pile, land treatment unit, or landfill that receives hazardous waste after July 26, 1982. Regulated units must undergo monitoring for the purposes of detecting, characterizing and responding to releases to the uppermost aquifer. [20.4.1.500 NMAC (incorporating 40 CFR 264.90(a)(2))]
- *Release* means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of any hazardous waste or hazardous constituent into the environment, including the abandonment or discarding of barrels, containers, and other closed receptacles containing a hazardous waste or hazardous constituent. [61 FR 19442]
- *Remediation waste* means all solid and hazardous wastes, and all media (including ground water, surface water, soils, and sediments) and debris which contain listed hazardous wastes, or which themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing corrective action requirements in compliance with RCRA, Sections 3004(v) and 3005(c)(3), and 20.4.1.500 NMAC (incorporating 40 CFR 264.101).
- *Secretary* means the Secretary of the New Mexico Environment Department or his or her designee. [20.4.1.101.B.8 NMAC]
- *Soil* means unconsolidated earth material composing the superficial geologic strata (material overlying bedrock), consisting of clay, silt, sand, or gravel size particles as classified by the U.S. Natural Resources Conservation Service, or a mixture of such materials with liquids,

sludges or solids which is inseparable by simple mechanical removal processes and is made up primarily of soil by volume based on visual inspection. Any deliberate mixing of prohibited hazardous waste with soil that changes its treatment classification (i.e., from waste to contaminated soil) is not allowed under the dilution prohibition of 20.4.1.800 NMAC (incorporating 40 CFR 268.3). [20.4.1.800 NMAC (incorporating 40 CFR 268.2(k))]

- *Solid Waste Management Unit (SWMU)* means any discernable unit at which solid wastes have been placed at any time, and from which the Secretary determines there may be a risk of a release of hazardous constituents, irrespective of whether the unit was intended for the management of solid or hazardous wastes. Placement of solid waste includes one time and accidental events that were not remediated, as well as any unit or area at which solid waste has been routinely and systematically placed.
- *Underlying hazardous constituent (UHC)* means any constituent listed in 20.4.1.800 NMAC (incorporating 40 CFR 268.48, Table UTS - Universal Treatment Standards), except fluoride, selenium, sulfides, vanadium, and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste at a concentration above the constituent-specific UTS treatment standards. [20.4.1.800 NMAC (incorporating 40 CFR 268.2(i))]
- *Unit* means, but is not limited to, for purposes of this Permit, any hazardous waste container area, tank storage area, tank treatment area, surface impoundment, or landfill.
- *Vadose zone* means the geologic profile extending from the ground surface to the upper surface of the uppermost water-bearing formation and includes localized areas of saturation such as perched water and capillary fringe regions. [20.9.1.105.CH NMAC]
- *Wastewaters* means wastes that contain less than one percent by weight total organic carbon (TOC) and less than one percent by weight total

suspended solids (TSS). [20.4.1.800 NMAC
(incorporating 40 CFR 268.2(f))]

**1.5 DUTIES AND REQUIREMENTS {TC \L1 "1.5 DUTIES
AND REQUIREMENTS }**

1.5.1 Duty to Comply {tc \l2 "1.5.1 Duty to Comply }

The Permittee shall comply with all conditions in this Permit, except to the extent and for the duration such noncompliance is authorized in an Emergency Permit, as specified at 20.4.1.900 NMAC (incorporating 40 CFR 270.61). Any Permit noncompliance, except under the terms of an Emergency Permit, constitutes a violation of the HWA and/or RCRA and may subject the Permittee, its successors and assigns, officers, directors, employees, parents, or subsidiaries, to an administrative or civil enforcement action, including civil penalties and injunctive relief under Sections 74-4-10 or 74-4-10.1 of the HWA, or Sections 3008(a) and (g) or 7002(a)(1)(A) of RCRA; to Permit modification, suspension, or revocation, or denial of a Permit application or modification request under Section 74-4-4.2 of the HWA; to citizen suit under Section 7002(a) of RCRA; to criminal fines or imprisonment under Section 74-4-11 of the HWA, or Sections 3008(d), (e), or (f) of RCRA; or to a combination of the foregoing. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(a))]

**1.5.2 Need to Halt or Reduce Activity Not a Defense {tc
\l2 "1.5.4 Need to Halt or Reduce Activity Not
a Defense }**

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(c))]

1.5.3 Continuation of Expiring Permit

If the Permittee has submitted a timely and complete application for renewal of this Permit in accordance with Permit Condition 1.2.2 and 20.4.1.900 NMAC (incorporating 40 CFR 270.10 and 270.13 through 270.27), and, through no fault of the Permittee, the Secretary has not issued a new Permit on or before the expiration date of this Permit, the terms and conditions of this Permit remain in effect until the effective date of the Secretary's issuance or denial of the new Permit. [20.4.1.900 NMAC (incorporating 40 CFR 270.51)]

1.5.4 Duty to Mitigate {tc \12 "1.5.5 Duty to Mitigate }

In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases of hazardous waste or hazardous constituents to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(d))]

1.5.5 Proper Operation and Maintenance {tc \12 "1.5.6 Proper Operation and Maintenance }

The Permittee shall at all times properly operate and maintain all units and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(e))] This provision requires the operation of back-up or auxiliary units or similar systems only when necessary to achieve compliance with the conditions of this Permit.

1.5.6 Duty to Provide Information{tc \12 "1.5.7 Duty to Provide Information }

The Permittee shall furnish to the Secretary, within a reasonable time as specified by the Secretary, any relevant information which the Secretary may request to determine whether cause exists for modifying, suspending, or revoking this Permit, to determine compliance with this Permit, to determine whether corrective action may be necessary, or otherwise to enforce the provisions of the HWA or RCRA. [NMSA 74-4-4.3; 20.4.1.500 NMAC (incorporating 40 CFR 264.74(a))]

The Permittee shall also furnish to the Secretary, upon request, copies of records required to be kept by this Permit. [NMSA 74-4-4.3; 20.4.1.900 NMAC (incorporating 40 CFR 270.30(h))]

Permit Condition 1.5.6 shall not be construed to limit, in any manner, the Secretary's authority under Section 74-4-4.3 of the HWA, Section 3007(a) of RCRA, or other applicable laws.

1.5.7 Disclosure Statement

If any information required to be included in the disclosure statement provided by the Permittee to comply with Section 74-4-4.7 of the HWA changes, or if any information is added after filing the statement, the Permittee shall provide that information to the Secretary within 30 calendar days after the change or addition. Failure to provide such information in a timely manner may constitute the basis for the revocation of this Permit.

1.5.8 Inspection and Entry{tc \12 "1.5.8 Inspection and Entry }

The Permittee shall allow the Secretary, or his or her authorized representatives, upon the presentation of credentials and other documents as may be required by law, the following entry and inspection authority, as required by NMSA 47-4-4.3 and 20.4.1.900 NMAC (incorporating 40 CFR 270.30(i)):

1.5.8.a Entrance to Premises {tc \13 "1.5.8.a Entrance to Premises }

To enter at reasonable times into the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;

1.5.8.b Access to Records{tc \13 "1.5.8.b Access to Records }

To have access to and copy, at reasonable times, any records that shall be kept under the conditions of this Permit;

1.5.8.c Inspection{tc \13 "1.5.8.c Inspection }

To inspect at reasonable times any units, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

1.5.8.d Sampling {tc \13 "1.5.8.d Sampling }

To sample or monitor at reasonable times, for the purposes of assuring Permit compliance, determining the need for corrective action, or as otherwise authorized by the HWA or RCRA, any substances or parameters, including wastes, soil, and groundwater, at any location.

Permit Condition 1.5.8 shall not be construed to limit, in any manner, the Secretary's authority under Section 74-4-4.3 of the HWA, Section 3007(a) of RCRA, or other applicable laws.

**1.5.9 Reporting Requirements{tc \12 "1.5.9
 Reporting Requirements }**

**1.5.9.a Reporting Planned Changes{tc \13 "1.5.9.a
 Reporting Planned Changes }**

The Permittee shall give notice to the Secretary, as soon as possible, of any planned physical alterations or additions to the Facility. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(1))]

**1.5.9.b Reporting Anticipated Noncompliance {tc \13
 "1.5.9.b Reporting Anticipated Noncompliance }**

The Permittee shall give advance written notice to the Secretary of any planned physical changes to the Facility or any permitted activities that may result in noncompliance with Permit requirements. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(2))]

**1.5.9.c Certification of Construction or Modification {tc
 \13 "1.5.9.c Certification of Construction or
 Modification }**

The Permittee shall not accept hazardous waste at the Facility, or, if the Facility is being modified, the Permittee shall not accept, treat, store, or dispose of hazardous waste in the modified portion of the Facility, until the following conditions have been satisfied:

**1.5.9.c.i Submittal of Construction Certification and As-
Built Specifications {tc \14 "1.5.9.c.i
 Submittal of certification and as-built
 specifications }**

The Permittee has submitted to the Secretary, by certified mail, hand delivery, or special delivery service, a letter signed by the Permittee and an independent professional engineer registered in New Mexico stating that the Facility has been constructed or modified as required by this Permit, in accordance with Permit Condition 1.10; and

**1.5.9.c.ii Inspection by the Secretary {tc \14 "1.5.9.c.ii
 Inspection by the Secretary }**

The Secretary has inspected the newly constructed Facility or the modified portion of the Facility and:

- finds it is in compliance with the conditions of this Permit; or

- has waived the inspection; or,
- within 15 calendar days from the date of submission of the letter required under Permit Condition 1.5.9.c.i, has not notified the Permittee of his or her intent to inspect. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(2))]

**1.5.9.d Twenty-Four Hour and Subsequent Reporting {tc \13
"1.5.9.d Twenty-Four Hour and Subsequent
Reporting }**

**1.5.9.d.i Oral Report {tc \14 "1.5.9.d.i Oral report
}**

As required by 20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(6)), within 24 hours from the time the Permittee becomes aware of any noncompliance that may endanger human health or the environment, the Permittee shall report orally to the Secretary the following:

- information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies; and
- any information of a release or discharge of hazardous waste, or of a fire or explosion from the Facility, which could threaten the environment or human health outside the Facility.

**1.5.9.d.ii Description of Occurrence {tc \14 "1.5.9.d.ii
Description of occurrence }**

The description of the occurrence and its cause shall include, as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(6)(ii)):

- name, address, and telephone number of the Permittee;
- name, address, and telephone number of the Facility;
- date, time, and type of incident;
- name and quantity of materials involved;
- the extent of injuries, if any;

- an assessment of actual or potential hazards to the environment and human health outside the Facility, where this is applicable; and
- the estimated quantity and disposition of recovered material that resulted from the incident.

**1.5.9.d.iii Written Submission {tc \14 "1.5.9.d.iii
Written submission }**

The Permittee shall provide a written submission within five calendar days from the time the Permittee becomes aware of the noncompliance. The written submission shall contain, as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(6)(iii)):

- a description of the noncompliance and its cause;
- the period(s) of the noncompliance, including exact date(s) and time(s), and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
- steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

The Secretary may extend the time for submission of a written report to 15 days.

**1.5.9.e Contingency Plan Implementation {tc \13 "1.5.9.e
Contingency Plan Implementation }**

If Permit Attachment C, *Contingency Plan*, is implemented, the Permittee shall comply with the reporting requirements of Permit Condition 2.11.6 and 20.4.1.500 NMAC (incorporating 40 CFR 264.56(j)).

**1.5.9.f Other Noncompliance {tc \13 "1.5.9.f Other
Noncompliance }**

The Permittee shall report to the Secretary all other instances of noncompliance not otherwise required to be reported in Permit Condition 1.5.9 in the Quarterly Report required at Permit Condition 2.12.2.b. The report shall contain the information listed at Permit Condition 1.5.9.d. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(10))]

**1.5.9.g Other Information {tc \13 "1.5.9.g Other
Information }**

Whenever the Permittee becomes aware that the Permittee failed to submit any relevant facts in the Permit Application, or submitted incorrect information in the Permit Application or in any report to the Secretary, the Permittee shall promptly submit such facts or information in writing to the Secretary. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(11))]

1.5.10 Obligation for Corrective Action

Corrective action required pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.101) shall continue under this Permit for any period necessary to comply with the requirements specified at Parts 9 and 10 of this Permit.

**1.6 SIGNATORY REQUIREMENT {TC \L1 "1.6 SIGNATORY
REQUIREMENT }**

The Permittee shall sign and certify all applications or reports submitted to or requested by the Secretary, or required by this Permit, in accordance with and using the certification language specified in 20.4.1.900 NMAC (incorporating 40 CFR 270.11 and 270.30(k)).

**1.7 REPORTS AND NOTIFICATIONS SUBMITTED TO THE
SECRETARY{TC \L1 "1.7 REPORTS AND
NOTIFICATIONS SUBMITTED TO THE SECRETARY }**

The Permittee shall submit two copies of all reports and notifications required by this Permit by certified mail, hand delivery, or special delivery service. Submissions shall be sent to:

Chief, Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East
Building 1
Santa Fe, New Mexico 87505-6303

Telephone Number: 505/428-2512
Facsimile Number: 505/428-2567

**1.8 CONFIDENTIAL INFORMATION {TC \L1 "1.8
CONFIDENTIAL INFORMATION }**

The Permittee may claim confidentiality for any information submitted to or requested by the Secretary or required by this

Permit to the extent authorized by Section 74-4-4.3(D) of the HWA and 20.4.1.900 NMAC (incorporating 40 CFR 270.12).

**1.9 DOCUMENTS TO BE MAINTAINED AT THE FACILITY {TC \L1
"1.9 DOCUMENTS TO BE MAINTAINED AT THE
FACILITY }**

**1.9.1 {tc \l2 "1.9.1 Documents to be Maintained
untCompletion of Closure }Documents to be
Maintained until Completion of Closure**

The Permittee shall maintain at the Facility, until final completion of closure as specified at Permit Part 8 has been approved by the Secretary, the following documents and all current amendments, revisions, and modifications to these documents:

- Permit Attachment B, *Procedures to Prevent Hazards* (Permit Condition 2.10)
- Permit Attachments C, *Contingency Plan*, including summary reports and details of all incidents that require implementation of the Contingency Plan; C1, *Emergency Equipment*; C2, *Emergency Coordinators*; C3, *Cooperating Local Authorities*; and C4, *Evacuation Plans*. [20.4.1.500 NMAC (incorporating 40 CFR 264.53(a)) and Permit Condition 2.11.2]
- Permit Attachments D, *Inspection Procedures*; and D1, *Inspection Schedules and Checklists*. [20.4.1.500 NMAC (incorporating 40 CFR 264.15(b)(2)) and Permit Condition 2.7]
- Permit Attachment E, *Personnel Training*, and personnel training documents and records. [20.4.1.500 NMAC (incorporating 40 CFR 264.16(d) and (e)) and Permit Condition 2.8]
- Permit Attachments F, *Waste Analysis Plan*; F1, *Rationale for Analytical Parameter Selection*; F2, *Waste Profile Form*; and F3, *Chain-of-Custody Form*. [20.4.1.500 NMAC (incorporating 40 CFR 264.13(b)) and Permit Condition 2.5.1]
- The Operating Record. [20.4.1.500 NMAC (incorporating 40 CFR 264.73) and Permit Condition 2.12.1.a]

- Permit Attachment J, *Action Leakage Rate and Response Action Plan*. (Permit Condition 2.10.7)
- Permit Attachment N, *Operations and Maintenance Plan*. (Permit Condition 2.10.8)
- Permit Attachments O, *Closure Plan*; O1, *Compliance Schedules for Closure*; and O2, *Financial Assurance for Closure*. (Permit Conditions 8.1.1 and 8.3.1(d))

1.9.2 Documents to be Maintained until Completion of Post-Closure Care {tc \12 "1.9.2 Documents to be Maintained until Completion of Post-Closure Care }

The Permittee shall maintain at the Facility or other appropriate location approved by the Secretary, until completion of post-closure care as specified at Permit Part 8 has been approved by the Secretary, the following documents and all amendments, revisions, and modifications to these documents:

- Permit Attachments P, *Post-Closure Care Plan*; and P1, *Financial Assurance for Post-Closure Care*. (Permit Conditions 8.2.1 and 8.3.1.d)

1.10 COMPLIANCE SCHEDULE {TC \L1 "1.10 COMPLIANCE SCHEDULE }

The Permittee shall submit documents, plans, certifications, and as-built specifications under this Permit to the Secretary for approval in accordance with the schedule provided in Table 1-1, *Compliance Schedule*, as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.33). Written notification of compliance or noncompliance with any item identified in the schedule shall be submitted according to the schedule date. Submittal of a required item according to the schedule constitutes notification of compliance.

All plans and schedules required to be submitted by the conditions of this Permit are, upon approval of the Secretary, incorporated into this Schedule of Compliance by reference and become an enforceable part of this Permit. Any noncompliance with such approved plans shall be termed noncompliance with this Permit. Extension of the due dates for submittals may be granted by the Secretary in accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.41 and/or 270.42).

TABLE 1-1

COMPLIANCE SCHEDULE

| PERMIT CONDITION | DOCUMENT/INFORMATION | DUE DATE |
|-----------------------------|--|---|
| 1.5.9.c.i | Submittal of Construction Certification and As-Built Specifications | 30 days prior to first receipt of waste |
| 2.10.6 | Notification of Agreements with Local Authorities | 30 days prior to first receipt of waste |
| 2.11.5 | Updated Contingency Plan | 15 days prior to first receipt of waste |
| 2.11.5.a | List of Emergency Coordinators | 15 days prior to first receipt of waste |
| 2.11.5.c | Evacuation Plan | 15 days prior to first receipt of waste |
| 2.18.1.b | Documentation of Liability Coverage for Sudden Accidental Occurrences | 60 days prior to first receipt of waste |
| 2.18.2.b | Documentation of Liability Coverage for Nonsudden Accidental Occurrences | 60 days prior to first receipt of waste |
| 4.7.3.a | Tank Installation Certification | 30 days prior to first receipt of waste |
| 5.7.3.a | Surface Impoundment CQA Certification | 30 days prior to the first receipt of waste |
| 7.2.1 | Vadose Zone Monitoring Wells | Prior to the first receipt of waste |

| PERMIT CONDITION | DOCUMENT/INFORMATION | DUE DATE |
|---------------------|--|--|
| 10.2 | Facility Corrective Action Work Plan | Within 180 days of the effective date of this Permit |
| 10.3.2.a | Background Soil Concentrations Work Plan | 30 calendar days prior to the first receipt of waste |
| | | |

New Mexico Environment Department
March 2002

Triassic Park Waste Disposal Facility
Final RCRA Permit No. NM0001002484

PERMIT PART 2

GENERAL FACILITY CONDITIONS {TC \L1 "PERMIT PART 2 GENERAL FACILITY CONDITIONS }

HIGHLIGHTS

This Part contains the standards and conditions covering general Facility requirements for the Triassic Park Waste Disposal Facility (the Facility). The Facility is located on approximately 480 acres in Chaves County, New Mexico, T11S, R31E, Sections 17 and 18. By road, it is approximately 43 miles east of Roswell and 36 miles west of Tatum.

The Facility is a commercial Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste treatment, storage, and disposal operation. The Facility is permitted to store hazardous waste in the Drum Handling Unit, the Roll-Off Container Storage Unit, and the Liquid Waste Storage Tanks; treat hazardous waste by evaporation in the Surface Impoundment and by solidification in the Stabilization Bins; and dispose of hazardous waste in the Landfill. Permit Conditions for these permitted units are contained at Permit Parts 3 through 6. Other units at the Facility are operated as 90-day generator storage units or satellite accumulation points. These units are not permitted under this Permit but are regulated under RCRA. These units are identified at Permit Part 10, Table 10-1.

Permit Conditions for vadose zone monitoring in lieu of ground water monitoring are contained at Permit Part 7. Conditions for closure of the Facility and for post-closure care for the Landfill are contained at Permit Part 8. Permit Parts 9 and 10 contain conditions for corrective action.

General information regarding the Facility and Facility operations is contained at Permit Attachments A, *General Facility Description and Process Information*; L, *Engineering Report*, Section 2.1, *General Facility Design Elements*; and L1, *Engineering Drawings*. The Facility layout is provided at Permit Attachment L1, Drawing No. 4.

Hazardous wastes which may be managed, treated, stored, and disposed by the Permittee at this Facility are listed at Permit Part 2, Table 2-1, *Permitted Hazardous Wastes*, by U.S. Environmental Protection Agency (EPA) Hazardous Waste Number as

identified at 20.4.1.200 NMAC (incorporating 40 CFR 261, Subparts C and D). The Facility may also manage certain polychlorinated biphenyl (PCB)-contaminated wastes.

1.1 CONSTRUCTION AND OPERATION

The Permittee shall construct, maintain, and operate the Facility as specified at Permit Attachments A, Section 2.0, *Treatment, Storage, and Disposal*; L; L1; L2, *Specifications for the Landfill, Surface Impoundment and Associated Facilities Liner and Cover System Construction*; M, *Construction Quality Assurance Plan for Landfill, Surface Impoundment and Associated Facilities Construction*; and N, *Operations and Maintenance Plan*; and as required by 20.4.1 NMAC (incorporating 40 CFR 260 through 273) and this Permit. The Permittee shall follow the specifications contained at Permit Attachments L; L1; L2; and M; for construction of the Surface Impoundment and the Landfill, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.19) and this Permit. The Permittee shall ensure that the construction, maintenance, and operation of the Facility minimizes the possibility of a fire, explosion, or any unplanned, sudden, or nonsudden release of hazardous waste to air, soil, ground water, or surface water which could threaten human health or the environment, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.31).

1.2 RUN-ON/RUN-OFF CONTROLS

The Permittee shall construct the Stormwater Detention Basin and Facility run-on diversion ditches and run-off collection ditches as specified at Permit Attachments L, Section 2.1.4, *Facility Storm Water Control*; and L1.

1.3 PERMITTED AND PROHIBITED WASTE SOURCES

1.3.1 Hazardous Waste from Sources Located Outside of the United States

The Permittee shall accept hazardous waste from a generator of hazardous waste located outside of the United States of America (i.e., foreign waste) in accordance with Permit Condition 2.3.2, *Hazardous Waste from an Off-site Source*, Permit Condition 2.5.3.e, *Waste Acceptance from Foreign Generators*, and shall notify both the Regional Administrator of the U.S. Environmental Protection Agency and the Secretary in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.12(a)(1)).

**1.3.2 Hazardous Waste from an Off-Site Source{tc \12
"2.3.2 Hazardous Waste from an Off-Site
Source }**

The Permittee shall accept hazardous waste from off-site sources [i.e., generators of hazardous waste located within the United States of America, but outside the boundary of the Facility, as defined at 20.4.1.900 NMAC (incorporating 40 CFR 270.2)], in accordance with Permit Attachment F, *Waste Analysis Plan*, Sections 4.3, *Pre-Acceptance Procedures for Off-Site Waste*, and 4.4, *Procedures for Incoming Waste Acceptance*.

**1.3.3 Hazardous Waste Generated at the Facility{tc \12
"2.3.3 Hazardous Waste Generated at the
Facility }**

The Permittee shall manage hazardous waste generated at the Facility in accordance with Permit Attachments A, Section 2.0; F, Section 4.5.6, *Waste Analysis Requirements for Waste Generated On-Site*; and L; and this Permit.

**1.4 PERMITTED AND PROHIBITED WASTE {TC \L1 "2.4
PERMITTED AND PROHIBITED WASTE }**

**1.4.1 Permitted Waste {tc \12 "2.4.1 Permitted
Waste }**

1.4.1.a Permit Application, Part A

The Permittee shall accept only the hazardous wastes identified at Permit Attachment K, *Permit Application - Part A*; and listed at Table 2-1 of this Permit Part.

1.4.1.b Other Permitted Waste

1.4.1.b.i Certain PCB-Contaminated Liquids

The Permittee may accept non-ignitable liquids containing PCBs in concentrations of less than 50 parts per million (ppm) in accordance with 20.4.1.800 NMAC (incorporating 40 CFR 268.5(h)(2)(vi) and 268.50(f)).

1.4.1.b.ii Certain PCB-Contaminated Soils

The Permittee may accept soils containing PCBs in concentrations of less than 50 ppm.

1.4.1.b.iii Bulk PCB-Contaminated Remediation waste

The Permittee may accept bulk PCB-contaminated remediation waste subject to concentration limits described in Part Condition 2.4.1.b.ii. PCB-contaminated remediation waste includes, but is not limited to, the following non-liquid PCB-contaminated remediation wastes: soil, sediments, dredged materials, muds, PCB sewage sludge, and industrial sludge. (40 CFR 761.61(a)(4)(i) and 761.3)

1.4.1.c Acceptance of Waste on an Emergency Basis

The Permittee may accept hazardous waste that is not identified at Permit Conditions 2.4.1.a or 2.4.1.b or that is prohibited at Permit Condition 2.4.2 only if the waste has been approved for receipt by the Secretary on an emergency basis and the Facility has obtained an Emergency Permit in accordance with Permit Condition 1.5.1 and as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.61).

1.4.2 Prohibited Waste Streams

1.4.2.a General Prohibition

The Permittee is prohibited from accepting, storing, treating, or disposing the following wastes at the Facility: the wastes not listed in Permit Attachment K, *Permit Application - Part A*; and the wastes specified at Permit Attachment F, Section 4.1.2, *Prohibited Waste*.

Wastes prohibited from acceptance at the Facility include, but are not limited to:

- **certain hazardous debris.** - Hazardous debris means debris that contains a hazardous waste listed in 20.4.1.200 NMAC (incorporating 40 CFR 261, Subpart D), or that exhibits a characteristic of hazardous waste identified in 20.4.1.200 NMAC (incorporating 40 CFR, 261 Subpart C). The Permittee shall not accept hazardous debris that does not meet the LDR treatment standards;
- **certain lab packs.** - Lab packs which contain wastes [identified at 20.4.1.800 NMAC (incorporating 40 CFR 268, Appendix IV)] excluded from lab packs under the alternative treatment

standards contained at 20.4.1.800 NMAC
(incorporating 40 CFR 268.42(c));

- **certain liquids containing PCBs.** - Ignitable liquids containing PCBs or liquids with PCB concentrations greater than or equal to 50 ppm;
- **certain soils containing PCBs.** - Soils with PCB concentrations greater than or equal to 50 ppm, except for those soils (and other solids) defined as bulk PCB-contaminated remediation waste;
- **compressed gases.** - Gases stored at pressures higher than atmospheric;
- **dioxin-contaminated waste.** - Dioxin-containing wastes listed at 20.4.1.800 NMAC (incorporating 40 CFR 268.31) (i.e., wastes with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, F027, and F028);
- **explosives.** - Any substance or article, including a device, which is designed to function by explosion (i.e., an extremely rapid release of gas and heat) or which, by chemical reaction within itself, is able to function in a similar manner even if not designed to function by explosion;
- **infectious waste.** - Infectious waste, defined at 20.9.1.105.AL NMAC (Oct. 1995), means a limited class of substances that carry a probable risk of transmitting disease to humans, including but not limited to:
 - (1) microbiological laboratory wastes, including cultures and stocks of infectious agents from clinical research and industrial laboratories, and disposable culture dishes and devices used to transfer, inoculate and mix cultures;
 - (2) pathological wastes, including human or animal tissues, organs, and body parts, removed during surgery, autopsy, or biopsy;

- (3) disposable equipment, instruments, utensils, and other disposable materials which require special precautions because of contamination by highly contagious diseases;
 - (4) human blood and blood products, including waste blood, blood serum, and plasma;
 - (5) used sharps, including hypodermic needles, syringes, scalpel blades, Pasteur pipettes and broken glass; and
 - (6) contaminated animal carcasses, body parts, and bedding, especially those intentionally exposed to pathogens in research, in the production of biologicals or the "in vitro" testing of pharmaceuticals;
- **medical wastes.** - Medical wastes include infectious/biologic/pathogenic solid waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals;
 - **radioactive/nuclear wastes.** - Radioactive/ nuclear wastes mean naturally-occurring radioactive materials (NORM) defined in 20.3.1.14 NMAC; or other naturally-occurring materials which contain radioactivity concentrations, as specified at Permit Attachment F1, *Rationale for Analytical Parameter Selection*, above the concentration levels regulated under 20.3.1.14 NMAC; or materials regulated under the Atomic Energy Act of 1954, as amended (including source, special nuclear materials, and byproduct materials as defined in 10 CFR 1003);
 - **uncharacterized wastes.** - Uncharacterized wastes cannot be accepted at the Facility except by special provision and direction from the Secretary (e.g., emergency clean-up operations) under an Emergency Permit, or until full characterization has been performed.

**1.4.2.b Prohibited Waste at Specific Units{tc \13 "2.4.2.b
Prohibition of certain volatile organic
concentrations }**

1.4.2.b.i 40 CFR, Subparts BB and CC

The Permittee is prohibited from managing, treating, storing, or disposing of hazardous wastes subject to the requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264, Subparts BB and CC), in the Liquid Waste Storage Tank Area, the Stabilization Building, and the Surface Impoundment.

The Permittee is prohibited from storing hazardous wastes subject to the Container Level 3 standards contained at 20.4.1.500 NMAC (incorporating 40 CFR 264.1086(e)) in the Container Storage Areas.

1.4.2.b.ii Land Disposal Restrictions

The Permittee is prohibited from treating or disposing any hazardous waste in the Surface Impoundment or the Landfill respectively that does not meet the Land Disposal Restrictions (LDR) treatment standards contained at 20.4.1.800 NMAC (incorporating 40 CFR Part 268).

1.5 WASTE ANALYSIS PLAN

**1.5.1 General Waste Analysis Requirements {tc \12 "2.5.1
General Waste Analysis Requirements }**

The Permittee shall keep a copy of Permit Attachments F; F1; F2, *Waste Profile Form*; and F3, *Chain-of-Custody Form*; at the Facility, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.13), until the completion of closure has been approved by the Secretary.

The Permittee shall follow the waste analysis procedures required by 20.4.1.500 NMAC (incorporating 40 CFR 264.13) and 20.4.1.800 NMAC (incorporating 40 CFR 268.7), and specified at Permit Attachment F. The Permittee shall use analytical methods contained at Permit Attachment F; or methods contained in *Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods* (EPA Publication SW-846, latest edition). Alternative SW-846 methods may be approved by the Secretary through permit modification under 20.4.1.900 NMAC (incorporating 40 CFR 270.42).

At a minimum, the Permittee shall maintain proper functional instruments, use approved sampling and analytical methods, verify the validity of sampling and analytical procedures, and perform correct calculations.

1.5.2 Specific Waste Analysis Requirements

The Permittee shall perform the following waste analyses as presented at Permit Attachment F, Section 4.5, *Waste Analysis*:

- pre-shipment characterization of a representative sample from each waste stream prior to shipment as described at Permit Condition 2.5.2.a;
- fingerprint analysis of a select portion of waste upon arrival and continued fingerprint analysis of waste as specified at Permit Condition 2.5.2.b;
- annual re-analysis as specified at Permit Condition 2.5.2.c;
- additional analysis as specified at Permit Condition 2.5.2.d; and
- characterization of waste generated on-site as specified at Permit Condition 2.5.2.e.

Analytical parameters for each waste analysis requirement are specified at Permit Conditions 2.5.2.a through 2.5.2.e and shall be selected, as applicable, to meet waste characterization requirements, and to ensure compliance with LDR treatment standards and with regulations and operational limits as specified at Permit Attachment F.

The Permittee shall use analytical methods contained at Permit Attachment F, Tables 4-1 through 4-3; or in EPA publication SW-846. If the Permittee wishes to use an alternative method, the Permittee shall demonstrate to the Secretary that such alternative method is equivalent to the approved method contained in Permit Attachment F or EPA publication SW-846.

1.5.2.a Representative Sample Analysis

Following Permittee approval of the Waste Profile Form and associated characterization information and prior to initial acceptance of a waste stream, the Permittee shall obtain a representative waste stream sample from the generator for each

waste stream. The Permittee shall submit the representative sample to a qualified laboratory other than that used by the generator for analysis as described at Permit Attachment F, Sections 4.3.3, *Representative Sample Assessment*, and 4.5.2, *Representative Sample Analysis*. Representative sample analysis shall include, at a minimum, testing for each hazardous waste code contained in the waste stream and parameters listed in Permit Attachment F, Table 4-1, *Parameters and Methods for Pre-Acceptance Representative Sample Analysis*; as well as applicable parameters listed in Tables 4-2, *Tests and Analytical Methods for Fingerprint Samples* and 4-3, *Additional Tests and Analytical Methods*; as required to ensure complete analysis. Additional parameters not listed in Tables 4-2 and 4-3 may also be selected. The Permittee shall assess these data as required at Permit Condition 2.5.3.a.ii.

1.5.2.b Fingerprint Sampling and Analysis

Fingerprint sampling and analysis shall be performed upon acceptance of each waste stream shipment and prior to storage, treatment, or disposal, as specified at Permit Attachment F, Sections 4.4.3.1, *Fingerprint Test Procedure*, and 4.5.4, *Fingerprint Analysis*. All waste, except for debris waste, is subject to fingerprint sampling and analysis upon waste acceptance. Fingerprint analyses shall include, at a minimum, the parameters listed at Permit Attachment F, Table 4-2, and shall be sampled and analyzed following protocols and analytical frequencies specified at Permit Attachment F, Section 4.4.3.1. Reduction in fingerprint sampling and analysis frequency shall occur in accordance with waiver provisions presented at Permit Attachment F, Section 4.4.3.1, or through Permit modification. If discrepancies between fingerprint analysis and waste stream characterization information exist upon completion of discrepancy resolution as presented at Permit Attachment F, Section 4.4.4.1, *Discrepancy Resolution*, the waste shall be rejected by the Permittee. The Permittee shall ensure that the generator re-assumes responsibility for the rejected waste or shall ensure proper disposal of the waste at an appropriate facility within 30 days of the waste rejection.

1.5.2.c Annual Sampling and Analysis

The Permittee shall obtain a representative sample analysis from each off-site generator prior to initial acceptance of a waste stream, in accordance with Permit Condition 2.5.2.a, and annually thereafter, as specified at Permit Attachment F, Section 4.5.3, *Annual Analysis*. The annual analysis shall include, at a

minimum, parameters presented at Permit Attachment F, Table 4-1, in addition to any parameters included during analysis of the pre-shipment representative sample of the waste stream and additional parameters identified by the Permittee. If the annual analysis indicates waste stream changes such that the hazardous waste code assignment and/or LDR determination is modified, a new Waste Profile Form shall be obtained from the generator. The annual analysis shall be conducted as part of the Facility quality assurance program, as specified at Permit Attachment F, Section 4.4.3.2, *Annual Analysis Procedure*.

1.5.2.d Additional Sampling and Analysis

Additional sampling and analysis shall be performed to assess chemical characteristics of wastes in specific management units as specified at Permit Attachment F, Section 4.5.5, *Additional Analysis for Specific Management Units*. Sampling and analysis required for specific management units include, but are not limited to, the following:

- **storage units.** - Wastes managed in the Drum Storage Building, Roll-Off Container Storage Area, and the Liquid Waste Storage Tanks shall undergo pre-acceptance representative sample analysis, annual analysis, and initial and on-going fingerprint sample analysis as described at Permit Attachment F, Section 4.5.5.2, *Waste Analysis Requirements Specific to Storage Units*. Ignitability, reactivity, and incompatibility of each waste stream shall be determined using procedures listed at Permit Attachment F, Table 4-2; and as addressed at Permit Attachment F1;
- **Surface Impoundment.** - Wastes placed in the Surface Impoundment shall undergo pre-acceptance representative sample analysis as specified at Permit Attachment F, Section 4.5.5.3, *Waste Analysis Requirements Specific to the Surface Impoundment*. Compatibility, ignitability, and reactivity determination shall also be performed for wastes placed in the Surface Impoundment, as specified at Permit Attachment F, Section 4.5.5.3; and as addressed at Permit Attachment F1. Waste removed from the Surface Impoundment shall undergo analysis to ensure continued LDR compliance as

specified at Permit Attachment F, Section 4.5.5.3.;

- **Stabilization Tanks.** - Wastes placed in the Stabilization Tanks shall be analyzed as specified at Permit Attachment F, Section 4.5.5.4, *Waste Analysis Requirements Specific to the Stabilization Tanks*, and shall be characterized to ensure compatibility with the tank liner and previous wastes placed in the Stabilization Tanks. This may be accomplished through pre-acceptance representative sample analysis for wastes placed directly into the Stabilization Tanks, or through analysis performed on waste removed from the Surface Impoundment.

A second representative sample of any waste requiring stabilization shall be collected and shall be used for bench-scale testing to determine treatability. Bench-scale tests shall also be conducted as part of the representative sample analysis for incoming waste streams that are directly placed in the Stabilization Tanks. After stabilization, wastes shall be re-tested to ensure LDR requirements are met prior to placement into the Landfill. Compatibility, ignitability, and reactivity determination shall also be performed as specified at Permit Attachment F1; and

- **Landfill.** - Waste analysis for landfilled wastes is specified at Attachment F, Section 4.5.5.5, *Waste Analysis Requirements Specific to the Landfill*. All waste placed directly into the Landfill shall undergo pre-acceptance representative sample analysis as specified at Permit Condition 2.5.2.a. In addition to fingerprint analysis performed on all incoming waste as required at Permit Condition 2.5.2.b, a minimum of 10 percent of incoming wastes that are to be directly landfilled shall be sampled to verify conformance with LDR requirements, as specified at Permit Attachment F1, Section 4.5.5.5.

1.5.2.e Waste Analysis Requirements for Waste Generated On-Site

The Permittee shall comply with the waste analysis requirements for waste generated on-site specified at Permit Attachment F, Section 4.5.6.

1.5.2.f Compatibility Analysis

The Permittee shall include a compatibility determination on all pre-acceptance representative sample analyses, annual analyses, and additional sampling analyses conducted as required at Permit Conditions 2.5.2.a, 2.5.2.c, and 2.5.2.d; and at Permit Attachment F1; to ensure that potentially incompatible wastes are not stored, treated, or disposed in the same location.

1.5.3 Waste Acceptance Criteria{tc \12 "2.5.2 Waste Management }

The Permittee shall ensure that all waste managed at the Facility meets the criteria for acceptance and management specified at Permit Attachment F, Section 4.2, *Criteria for Waste Management at the Facility*; these criteria include characterization to acquire all the information that must be known to treat, store, or dispose of the waste as required by 20.4.1.500 NMAC (incorporating 40 CFR 264) and 20.4.1.800 NMAC (incorporating 40 CFR 268).

1.5.3.a Waste Acceptance from Off-Site Generators {tc \13 "2.5.2.a Waste acceptance from off-site generators }

The Permittee shall accept hazardous waste from off-site generators only in accordance with Permit Attachment F, Sections 4.3 and 4.4; and Permit Attachment N, Section 3.0, *Operations*.

1.5.3.a.i Waste Profile Form

The Permittee shall use the Waste Profile Form contained at Permit Attachment F2. The Permittee shall acquire a completed Waste Profile Form and accompanying characterization information from the generator for each new waste stream, as specified at Permit Attachment F, Section 4.3.1, *Waste Characterization Information Provided by the Generator*. The Permittee shall ensure that the generator submits a new Waste Profile Form for each new waste stream and for an existing waste stream if it is significantly modified.

The Permittee shall evaluate information provided by the generator as specified at Permit Attachment F, Sections 4.3, and 4.3.2, *Paperwork Evaluation*. If acceptable knowledge information is used, the information provided must be traceable (e.g., the information provided for a selected drum must be traceable back to the process which produced it) and auditable (i.e., "auditable" records mean those records that are readily available, that can be correlated to specific waste shipments or specific containers of waste, and that verify the characterization of such wastes).

Any revision of the Waste Profile Form and associated characterization information shall be accomplished through Permit modification.

1.5.3.a.ii Representative Sample Evaluation

Following Permittee approval of the Waste Profile Form and associated characterization information, the Permittee shall obtain a representative waste stream sample, which the Permittee shall submit to a qualified laboratory other than that used by the generator for analysis. The Permittee shall assess these data with respect to the Waste Profile Form and characterization information, as specified at Permit Attachment F, Section 4.3.3.

Discrepancy analysis shall include, but not be limited to, items listed at Permit Attachment F, Section 4.3.3.1, *Major Discrepancies*. If a major discrepancy is identified, the Permittee shall require the generator to submit a sampling plan for generator analysis of the waste. The generator's sampling plan must be consistent with EPA guidance, as specified at Permit Attachment F, Section 4.3.3.1, and must address the discrepant information in accordance with Permit Attachment F, Sections 4.3.3.1, *Major Discrepancies*, and 4.3.3.2, *Minor Discrepancies*. The sampling plan shall be documented in the Facility Operating Record within 15 days after receipt and approval by the Facility. The Permittee shall determine whether additional sampling is necessary to ensure that the elements listed at Permit Attachment F, Section 4.3.3.3, *Additional Waste Acceptance Conditions*, are appropriately addressed.

1.5.3.b Incoming Waste Acceptance

Incoming waste shipments shall be evaluated in accordance with Permit Attachment F, Section 4.4. If manifest discrepancies or discrepancies noted during visual examination are not resolved within 90 days of identifying the discrepancy, waste will not be

accepted for storage or disposal, and the waste will either be returned to the sender or disposed at an appropriate permitted Facility by the Permittee.

The Permittee shall ensure that a generator shipping hazardous debris or contaminated soil to the Facility has first complied with the certification requirements identified in the Table contained at 20.4.1.800 NMAC (incorporating 40 CFR 268.7).

1.5.3.c Air Emissions Requirements

The Permittee shall comply with the air emissions testing requirements contained at Permit Conditions 2.15.1.b, 2.15.2.b, and 2.15.2.c.

1.5.3.d Other Waste Management Requirements {tc \13 "2.5.2.b Other waste management requirements }

The Permittee shall ensure that all waste analyses, reports, documentation, notifications, and certifications required under 20.4.1.800 NMAC (incorporating 40 CFR 268.7) are provided by off-site generators or off-site treatment facilities that ship waste to the Facility, including, where appropriate, the certification requirement for treatment of hazardous debris.

1.5.3.e Waste Acceptance from Foreign Generators

The Permittee shall accept hazardous waste from foreign generators in accordance with, in addition to all of the requirements for off-site generators, Permit Attachment F4, *Waste Characterization Using Acceptable Knowledge*, and Permit Attachment F, Section 4.7.4, *Laboratory Requirements for Foreign Generators* as required in part by the Final Order from the Secretary dated March 18, 2002, through his authority stipulated at 20.4.1.900 (incorporating 40 CFR 270.32(b)(2)).

1.5.4 Sampling Plan

1.5.4.a Facility Sampling Plan

The Permittee shall follow the procedures specified at Permit Attachment F, Section 4.6, *Sampling Plan*. Modifications to this Sampling Plan are expected to be necessary, and revised sampling methods shall be EPA-approved methodologies included in the EPA publication, SW-846. Alternative SW-846 methods may be approved by the Secretary through permit modification under 20.4.1.900 NMAC (incorporating 40 CFR 270.42).

The modification may also include changes to the individual sampling and analysis protocols specific to individual waste streams presented in Attachment F, Section 4.6, which identify the fingerprint analysis to be used and sampling and analytical requirements prior to acceptance of an individual waste stream, as specified at Permit Attachment F, Section 4.3.4, *Notification and Approval of Waste Shipment*.

1.5.5 Laboratory Quality Assurance/Quality Control Plan

The Permittee shall follow the Laboratory QA/QC Plan described at Permit Attachment F, Section 4.7.2, *Facility Laboratory QA/QC Plan*.

1.5.6 Individual Sampling and Analysis Protocols

The Permittee shall also develop and place into the Operating Record individual sampling and analysis protocols specific to individual waste streams identifying the fingerprint analysis to be used and sampling and analytical requirements prior to acceptance of an individual waste stream, as specified at Permit Attachment F, Section 4.3.4.

**1.5.7 Quality Assurance Objectives {tc \12 "2.5.4
Quality Assurance Objectives }**

The Permittee shall review, validate, and verify all analytical data; reconcile analytical results with data quality objectives; satisfy data reporting requirements; and identify, document, and report all nonconformances and operational variances to the Secretary.

**1.5.8 Quality Control Checks {tc \12 "2.5.5 Quality
Control Checks }**

The Permittee shall take additional samples as quality control checks as specified at Permit Attachment F, Section 4.7.2.3, *Laboratory QA/QC Samples*. Upon request, the Permittee shall split samples with NMED.

**1.5.9 Disposal of Laboratory Samples {tc \12 "2.5.6
Disposal of Laboratory Samples }**

The Permittee shall dispose of on-site laboratory samples with compatible waste batches.

**1.5.10 Contract Laboratory Requirements {tc \12 "2.5.7
Contract Laboratory Requirements }**

The Permittee shall inform each contract laboratory in writing that it shall operate under the waste analysis conditions set forth at Permit Attachment F, Section 4.7.3, *Requirements for Off-Site Laboratories*.

1.6 SECURITY {TC \L1 "2.6 SECURITY }

The Permittee shall comply with the security provisions specified at Permit Attachment B, *Procedures to Prevent Hazards*, Section 5.1, *Security Provisions to Prevent Hazards*. [20.4.1.500 NMAC (incorporating 40 CFR 264.14)]

1.6.1 Means to Control Entry {tc \12 "2.6.1 Means to Control Entry }

Access to the Facility shall be only through a controlled access point that is manned by security guards, as specified at Permit Attachment B, Section 5.1.1, *Barrier and Means to Control Entrance*; as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.14(b)(2)(ii)).

1.6.2 Barriers {tc \12 "2.6.2 Barriers }

In order to prevent unknowing entry and minimize the possibility for unauthorized entry of persons, livestock or wildlife, the Facility shall have the following barrier as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.14(b)(2)(i)). The active portion of the Facility shall be bounded by a six-foot chain link fence topped with a three strand barbed wire access barrier with two access gates located in the northern portion of the Facility. The fence shall have metal flashing around its base constructed to protrude a minimum of 18-inches above ground and a minimum of 10-inches below ground. The fence shall be regularly maintained to ensure proper barriers..

1.6.3 Warning Signs {tc \12 "2.6.3 Warning Signs }

Warning signs in English and Spanish, e.g., "DANGER, NO UNAUTHORIZED PERSONNEL, KEEP OUT", and "PELIGRO, NO PERMITIDA LA ENTRADA SIN AUTORIZACION", shall be posted at the road entry point to the Facility and every 50 feet along the perimeter fence, as specified at Permit Attachment B, Section 5.1.2, *Warning Signs*. These bilingual signs shall be legible from a distance of 25 feet and shall also be visible from any approach

to the Facility. In addition, the warning signs shall be posted at each entrance to an active portion of the Facility, and in sufficient numbers to be seen from any approach to each active portion, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.14(c)).

**1.7 GENERAL INSPECTION REQUIREMENTS {TC \L1 "2.7
GENERAL INSPECTION REQUIREMENTS }**

The Permittee shall keep Permit Attachments D, *Inspection Procedures*; and D1; at the Facility until final closure of the Facility.

**1.7.1 Inspection Frequencies {tc \L2 "2.7.1
Inspection Frequencies }**

**1.7.1.a Inspection Schedules {tc \L3 "2.7.1.a
Inspection schedules }**

The Permittee shall implement the Inspection Schedules contained at Permit Attachment D1, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.15(b)).

**1.7.1.b Additional Inspection Requirements {tc \L3
"2.7.1.b Additional inspection requirements }**

The Permittee shall inspect areas subject to spills, such as loading and unloading areas, daily when in use, as required by 20.1.500 NMAC (incorporating 40 CFR 264.15(b)(4)).

**1.7.1.c Testing and Maintenance of Emergency Equipment {tc
\L2 "2.10.2 Testing and Maintenance of
Equipment }**

The Permittee shall inspect the monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment identified at Permit Attachment C1, *Emergency Equipment*, to detect any malfunctions and deterioration, operator errors, and discharges, as specified at Permit Attachment D, *Inspection Procedures*, Section 5.2.8, *Safety and Emergency Response Equipment Inspection Procedures*; and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.33); in order to assure proper operation in time of emergency.

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which they are employed, as specified at Permit Attachments E and F, Section 4.6.5.1, *Training Requirements for Personnel Responsible for Sampling Collection* and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.16).

**1.8.2 Personnel Training Procedures {tc \12 "2.8.2
 Personnel Training Procedures }**

The Personnel Training Program shall include the material and procedures outlined at Permit Attachment E, Section 7.2, *Training Content and Frequency*, and shall otherwise comply with the requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264.16(a)(3)).

The Permittee shall ensure that Facility personnel successfully complete the Personnel Training Program within six months after their employment at the Facility, or to their assignment to a new position at the Facility, whichever is later. Employees shall not work in unsupervised positions until they have successfully completed the training requirements for their positions, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.16(b)).

Facility personnel shall take part in an annual review of the initial training required for their positions, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.16(c)).

**1.8.3 Recordkeeping - Personnel Training Documents and
 Records {tc \12 "2.8.3 Recordkeeping -
 Personnel Training Documents and Records }**

The Permittee shall maintain training documents and personnel training records, as specified at Permit Attachment E, Section 7.3, *Record Keeping*, and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.16(d)). Training documents and personnel training records shall be kept until completion of closure or for at least three years from the date an employee last worked at the Facility, whichever is earlier, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.16(e)).

**1.9 SPECIAL PROVISIONS FOR IGNITABLE, REACTIVE, OR
 INCOMPATIBLE WASTE**

1.9.1 Precautions

The Permittee shall manage ignitable, reactive, or incompatible wastes as specified at Permit Attachment B, Section 5.5, *Precautions to Prevent Ignition or Reaction of Ignitable*,

Reactive, or Incompatible Wastes; and shall otherwise comply with the requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264.17(a) and (b)).

**1.9.2 Recordkeeping - Precautions for Ignitable,
Reactive, or Incompatible Waste{tc \12 "2.9.2
 Recordkeeping - Precautions for Ignitable,
Reactive, or Incompatible Waste }**

The Permittee shall document compliance with Permit Condition 2.9.1 in the Operating Record, in accordance with Permit Condition 2.12.1.a; and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.73(b)(3)).

1.10 PREPAREDNESS AND PREVENTION

The Permittee shall maintain Permit Attachment B at the Facility until final completion of closure, as specified by Permit Part 8, has been approved by the Secretary.{tc \11 "2.10
PREPAREDNESS AND PREVENTION }

**1.10.1 Required Equipment{tc \12 "2.10.1 Required
Equipment }**

At a minimum, the Permittee shall maintain at the Facility the equipment identified at Permit Attachment C1, *Emergency Equipment*, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.32).

**1.10.2 Access to Communications or Alarm System {tc \12
"2.10.3 Access to Communications or Alarm
System }**

The Permittee shall maintain access to the communications or alarm system as specified at Permit Attachment B, Section 5.3, *Preparedness and Prevention Procedures*; and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.34).

1.10.3 Roadways {tc \12 "2.10.4 Roadways }

The Permittee shall maintain roadways within the Facility as specified at Permit Attachment L, Section 2.1.3, *Facility Traffic Plan*, to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment in an emergency.

1.10.4 Arrangements with Local Authorities {tc \12
"2.10.5 Arrangements with Local Authorities }

The Permittee shall maintain preparedness and prevention arrangements with State and local authorities, contractors, and other governmental agencies, at a minimum as specified at Permit Attachment C, *Contingency Plan*, Sections 6.3.1.1, *Life-Threatening Situations*, and 6.3.4, *Off Site Notification and Evacuation Criteria*, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.37(a) and 264.52(c)). The Permittee shall maintain these documents at appropriate locations at the Facility.

1.10.5 Notification of Agreements with Local Authorities
{tc \12 "2.10.6 Notification of Agreements
with Local Authorities }

The Permittee shall submit signed copies of the preparedness and prevention agreements with local authorities listed at Permit Attachment C3, *Cooperating Local Authorities*, or documentation of refusal to enter into preparedness and prevention agreements, to the Secretary 30 days prior to initiation of operations at the Facility, in accordance with Permit Condition 1.10, and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.37(b)).

If a local authority with which the Permittee has an agreement terminates the agreement, Permittee shall document the termination in the Operating Record and shall provide a copy of this documentation and alternative emergency response arrangements to the Secretary within 15 days.

1.10.6 Response Action Plan

The Permittee shall keep Permit Attachment J, *Action Leakage Rate and Response Action Plan*, at the Facility until completion of closure for the Facility is approved by the Secretary.

1.10.7 Operations and Maintenance Plan

The Permittee shall keep Permit Attachment N, *Operations and Maintenance Plan*, at the Facility until completion of closure is approved by the Secretary.

1.11.1 Implementation of Contingency Plan(tc \l2 "2.11.1
Implementation of Plan }

If the Permittee implements the Contingency Plan as a result of a spill or release to the environment and after 30 calendar days the Permittee has not been able to remove all contaminated soil or water to appropriate action levels, in accordance with Permit Condition 9.2, the Permittee shall comply with the requirements of either Permit Part 9 or 10, as appropriate. The Permittee may submit for the Secretary's approval a one time, 30 day extension to the above 30 calendar days compliance period.

The Permittee shall maintain copies of the Contingency Plan and all revisions and amendments to the Contingency Plan at all document locations throughout the Facility until the completion of closure for the Facility is approved by the Secretary. The Permittee shall also submit a copy of the Contingency Plan and current revisions and amendments thereto to all federal, State, and local entities that may be called upon to provide emergency services and/or with which the Permittee has preparedness and prevention arrangements, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.53). As a part of the submittal to all federal, State, and local entities, the Permittee shall also submit Permit Attachment A, *General Facility Description and Information*.

The Permittee shall review and immediately amend, when necessary, the Contingency Plan as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.54). The Permittee shall submit all revisions and amendments to the Plan to the Secretary through a Permit modification before implementation of such revisions and

amendments as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.42).

**1.11.4 Emergency Coordinator {tc \12 "2.11.4
 Emergency Coordinator }**

A trained Emergency Coordinator (EC) or an alternate EC, as identified at Permit Attachment C, Section 6.1, *General Responsibilities of the Emergency Coordinator*, shall be available 24 hours a day, seven days a week, in case of an emergency. The EC or alternate EC shall be thoroughly familiar with the Contingency Plan and shall have the authority to commit the resources needed to implement the Contingency Plan, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.55).

In the event of an imminent or actual emergency, the EC shall implement the emergency procedures specified at 20.4.1.500 NMAC (incorporating 40 CFR 264.56) and Permit Attachment C.

**1.11.5 Updated Contingency Plan {tc \12 "2.11.5
 Submittals to the Secretary }**

The Permittee shall submit an updated Contingency Plan to the Secretary for approval at the time of Facility certification, as specified at Permit Attachment C and in accordance with Permit Condition 1.10. The updated Contingency Plan shall include, at a minimum, the following.

**1.11.5.a List of Emergency Coordinators {tc \13 "2.11.5.a
 List of emergency coordinators }**

The Permittee shall submit to the Secretary an updated list of the names, addresses, and phone numbers of all persons designated to act as ECs 15 days prior to initiation of operations, in accordance with Permit Condition 1.10; and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.52(d)).

This updated list of ECs shall be inserted as replacement pages into this Permit at Permit Attachment C2, *Emergency Coordinators*.

The Permittee shall inform the Secretary in writing of changes to the list of ECs and telephone numbers within 15 calendar days from the date of the changes, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.52(d)).

1.11.5.b Emergency Response Team Members

The Permittee shall submit to the Secretary a list of the names and qualifications of all individuals qualified as members of the on-site emergency response team discussed at Permit Attachment B, *Procedures to Prevent Hazards*, Section 5.4.6. This list shall be provided to the Secretary 15 days prior to initiation of operations at the site.

1.11.5.c Evacuation Plan

The Permittee shall include in the updated Contingency Plan a finalized, building- or unit-specific evacuation plan for Facility personnel where there is a possibility that evacuation could be necessary. This plan shall describe evacuation routes, and alternate evacuation routes in cases where the primary routes could be blocked by releases of hazardous waste or fires. The plan shall include a clear map of the evacuation routes, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.52(f)).

This plan shall be inserted as replacement pages at Permit Attachment C4, *Evacuation Plans*.

1.11.6 Reporting and Recordkeeping - Contingency Plan Implementation {tc \12 "2.11.7 Reporting and Recordkeeping - Contingency Plan Implementation }

Whenever the Contingency Plan is implemented, the Permittee shall note the time, date, and details of the incident in the Operating Record and submit a written report to the Secretary within 15 calendar days, as specified at Permit Attachment C, Section 6.4.2, *Required Reports and Notification*; and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.56(j)).

1.12 RECORDKEEPING AND REPORTING {TC \L1 "2.12 RECORDKEEPING AND REPORTING }

1.12.1 Recordkeeping Requirements {tc \12 "2.12.1 Recordkeeping Requirements }

The Permittee shall maintain at the Facility all the records, data, certifications, and other information listed at Table 2-2, *Recordkeeping Requirements*. Records kept shall include, but are not limited to, the following.

**1.12.1.a Operating Record {tc \13 "2.12.1.a Operating
record }**

The Permittee shall maintain a written Operating Record at the Facility as required by this Permit and 20.4.1.500 NMAC (incorporating 40 CFR 264.73). The Operating Record shall include all information required at 20.4.1.500 NMAC (incorporating 40 CFR 264.73(b)). Information placed in the Operating Record shall be kept until final closure of the Facility is approved by the Secretary, except as noted elsewhere in this Permit.

**1.12.1.b Facility Notification to Off-Site Generators {tc
\13 "2.12.1.b Required notification to off-
site generators }**

The Permittee shall keep a copy of the written notice to off-site generators that the Facility has the appropriate permit(s), and will accept the waste the generator is shipping, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.12(b)).

**1.12.1.c Generator Notifications and Certifications {tc \13
"2.12.1.c Generator notifications and
certifications }**

The Permittee shall keep copies of the notices, and the certifications and demonstrations if applicable, required of the generator or the Permittee, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.73(b)(11) through (b)(16)).

**1.12.1.d Manifest Records {tc \13 "2.12.1.d Manifest
records }**

The Permittee shall retain at the Facility a copy of each manifest received from an off-site generator of hazardous waste accepted at the Facility for a period of at least three years, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.71(b)(5)).

**1.12.1.e Waste Analysis for Waste Acceptance{tc \13
"2.12.1.e Waste analyses }**

The Permittee shall maintain waste analysis records and copies of all certifications, demonstrations, and other documents relevant to waste analyses required for waste acceptance (including both pertinent Facility records and records from off-site generators) in the Operating Record, as required by 20.4.1.500 NMAC

(incorporating CFR 264.73(b)(3)) and 20.4.1.800 NMAC
(incorporating 40 CFR 268.4(a) and 268.7).

1.12.1.f Recordkeeping - 40 CFR 264, Subpart BB Exemption

The Permittee shall record in a log, for use in determining exemption from the requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264, Subpart BB), all the information required at 20.4.1.500 NMAC (incorporating 40 CFR 264.1064(k)). The documentation to determine exemption shall be kept with, or made readily available with, the Operating Record for a period of three years.

1.12.1.g Recordkeeping - 40 CFR 264, Subpart CC Exemption

The Permittee shall record in a log, for use in determining exemption from the requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264, Subpart CC), all the information required at 20.4.1.500 NMAC (incorporating 40 CFR 264.1089(f)). The documentation to determine exemption shall be kept with or made readily available with the Operating Record for a period of three years.

1.12.1.h Recordkeeping - 40 CFR 264, Subpart CC Compliance

The Permittee shall maintain at the Facility the information required under Permit Condition 3.4.

1.12.1.i Waste Stream Tracking

Information on each hazardous waste stream (including underlying hazardous constituents) managed at the Facility shall be recorded in the Waste Tracking System described at Permit Attachment F1, Section 4.8, *Waste Tracking*, and maintained in the Operating Record or at another location approved by the Secretary until completion of post-closure care has been approved by the Secretary, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.73(b)(1)).

The information to be maintained shall describe the waste, the hazard characteristics, the basis for hazard designation, and the date deposited in the Landfill, the grid location within the landfill, and shall include the laboratory report results (if chemical analysis is used) detailing the chemical and physical analysis of the waste. The information provided for each waste stream shall be complete for each movement of the waste from acceptance through storage, treatment, and disposal at the

Facility, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264, Appendix I);

**1.12.1.j Waste Minimization Program {tc \13 "2.12.1.g
 Waste minimization program }**

The Permittee shall annually, by December 1 for the previous year ending September 30, enter into the Operating Record a certified statement specifying that the Permittee has a program in place, in accordance with Permit Condition 2.13, to reduce the volume and toxicity of hazardous wastes generated by the Facility's operation to the degree determined by the Permittee to be economically practicable; and the proposed method of treatment, storage, or disposal is that practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.73(b)(9)).

A current description of the program shall also be maintained in the Operating Record;

**1.12.1.k Monitoring Records {tc \13 "2.12.1.h
 Monitoring records }**

1.12.1.k.i Monitoring Information

The Permittee shall retain records of all monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation, for a period of at least three years from the date of the sample, measurement, or record, as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.30(j)(2)). This period may be extended by the Secretary at any time.

The Permittee shall retain monitoring records for the Surface Impoundment Leak Detection and Removal System (LDRS) and Vadose Zone Monitoring System (VZMS) and associated water level elevations until the completion of Surface Impoundment closure, or if necessary post-closure, is approved by the Secretary, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.226(d)(1)).

The Permittee shall retain records for the Landfill Leachate Collection and Removal System (LCRS), LDRS, and VZMS until the completion of post-closure care for the Landfill is approved by the Secretary, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.303(c)(1));

1.12.1.k.ii Record Information

Records for monitoring information shall include, as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.30(j)(3)):

- the date, exact place, and time of sampling or measurements;
- the name of the individual(s) who perform the sampling or measurements;
- the date(s) analyses are performed;
- the name and address of the laboratory that performed the analyses;
- the name of the individual(s) who perform the analyses;
- the analytical techniques or methods used; and
- the result of such analyses;

1.12.1.l Corrective Action Records {tc \13 "2.12.1.i Corrective action records }

For a unit undergoing corrective action under Permit Parts 9 or 10, the Permittee shall retain, until completion of the corrective action has been approved by the Secretary, records of all monitoring information, waste analyses, and all other pertinent data and information used to prepare the appropriate documents required for the action by this Permit, as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.30(j)(2) and 270.31(b)).

1.12.1.m Grid "Cell" Map

The Permittee shall maintain the grid "cell" map of the Landfill and location identification of the waste placed in the Landfill in the Operating Record, in accordance with Permit Conditions 6.7.1.a; and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.73(b)(2) and 264.309).

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- quantities of hazardous wastes stored, treated, and/or disposed in the Landfill (including waste generated on-site), by EPA Hazardous Waste Number;
- a discussion of spills and releases which have occurred during the reporting period, and subsequent actions taken;
- any variances or discrepancies from this Permit;
- monitoring results, including raw data, of the monitoring of the LCRS and LDRS at the Surface Impoundment and Landfill, of the monitoring of the VZMS, and all other monitoring requirements of this Permit, as required by 20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(4) and 270.31(c)); and
- a summary of operation and maintenance activities for the VZMS, in accordance with Permit Condition 7.6, and for the LCRS and LDRS, at the Surface Impoundment and Landfill.

The report shall also include a discussion of planned activities for the upcoming three-month period, including any necessary changes or modifications in operating activities approved under this Permit.

**1.12.2.c Waste Minimization Program Certification {tc \13
"2.12.2.c Waste minimization program
certification }**

The Permittee shall submit a copy of the annual certified statement regarding the Waste Minimization Program required at Permit Condition 2.13 to the Secretary by December 1 for the previous year ending September 30, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.75(i)).

**1.12.2.d Reporting - Noncompliance with the 40 CFR 264, CC
Exemption**

The Permittee shall report to the Secretary each occurrence, within 15 calendar days of the time the Permittee becomes aware of the occurrence, whenever hazardous waste is placed in a waste management unit in noncompliance with the exemption from the requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264,

Subpart CC) provided at Permit Condition 2.15.2.a; as specified at Permit Attachment G, *Air Quality*; and as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.1090(a)).

**1.13 WASTE MINIMIZATION PROGRAM {TC \L1 "2.13 WASTE
MINIMIZATION PROGRAM }**

The Permittee shall institute a program, as specified at Permit Attachment A, Section 9.0, *Waste Management*, to reduce the volume and toxicity of hazardous wastes generated at the Facility to the degree determined by the Permittee to be economically feasible. Suggested criteria for the program include:

- (1) any written policy or statement that outlines goals, objectives, and/or methods for source reduction and recycling of hazardous waste at the Facility;
- (2) any employee training or incentive program designed to identify and implement source reduction and recycling opportunities;
- (3) any source reduction and/or recycling measures implemented in the last five years or planned for the near future;
- (4) an itemized list of the dollar amounts of capital expenditure (plant and equipment) and operating costs devoted to source reduction and recycling of hazardous waste;
- (5) factors that have prevented source reduction and/or recycling;
- (6) an investigation of additional waste minimization efforts that could be implemented at the Facility. This investigation would analyze the potential for reducing the quantity and toxicity of each waste stream through recycling and all other appropriate means. The analysis would include an assessment of the technical feasibility, cost, and potential waste reduction for each option;
- (7) a flow chart or matrix detailing all hazardous wastes produced by quantity, type, and building or area;

- (8) a demonstration of the need to use those processes which produce a particular hazardous waste due to a lack of alternative processes or available technology which would produce less hazardous waste;
- (9) a description of the waste minimization methodology employed for each related process at the Facility which shows whether source reduction or recycling is being employed; and
- (10) a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years.

**1.14 TRANSPORTATION OF HAZARDOUS WASTE {TC \L1 "2.14
 TRANSPORTATION OF HAZARDOUS WASTE }**

**1.14.1 Transportation of Hazardous Waste to the Facility
 {tc \l2 "2.14.1 Transportation of Hazardous
 Waste to the Facility }**

**1.14.1.a Manifest Requirements {tc \l3 "2.14.1.a
 Manifest requirements }**

The Permittee shall comply with the manifest requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264.71).

**1.14.1.b Manifest Discrepancies {tc \l3 "2.14.1.b
 Manifest discrepancies }**

Upon discovering a significant discrepancy, as identified at Permit Attachment F, Section 4.4, and at 20.4.1.500 NMAC (incorporating 40 CFR 264.72(a)), between the quantity or type of waste designated on the manifest and the quantity or type of waste actually received at the Facility, the Permittee shall attempt to reconcile the discrepancy with the generator or transporter. If the discrepancy is not resolved within 90 days after receiving the waste, the Permittee shall immediately submit to the Secretary a letter describing the discrepancy and attempts to resolve it, and a copy of the manifest, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.72(b)).

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**1.14.3 Decontamination of Equipment and Vehicles {tc \13
"2.14.2.c Decontamination of equipment and
vehicles }**

The Permittee shall ensure that any vehicles or equipment which have come in contact with hazardous waste in any storage or treatment area and/or which have been in contact with hazardous waste in the Landfill are sufficiently decontaminated prior to their further movement to prevent contamination of uncontaminated areas of the Facility as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.31)). Wash water generated from truck or equipment decontamination shall be collected, tested, and treated, and disposed as specified at Permit Attachment F, Section 4.5.6.

1.15 AIR QUALITY PROTECTION

1.15.1 40 CFR, Subpart BB

1.15.1.a Compliance and Exemption

The Permittee shall manage waste with an organic concentration of at least 10 percent by weight in compliance with the requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264.1050(b)(1)). Waste with an organic concentration of less than 10 percent by weight is exempt from the requirement to comply with 20.4.1.500 NMAC (incorporating 40 CFR, Subpart BB).

Alternatively, the Permittee may elect to demonstrate compliance with this Permit Condition through compliance with a New Source Air Emissions Permit, to the extent that the documentation required under the New Source Air Emissions Permit duplicates the documentation required under this Permit Condition, in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.1064(m)).

1.15.1.b Waste Determination

The Permittee shall use the test methods contained at 20.4.1.500 NMAC (incorporating 40 CFR 264.1063(d)), to make a determination of compliance with Permit Conditions 2.4.2.b.i and 2.15.1.a for each waste stream managed at the Facility, as specified at Permit Attachment F1, Section 4.5.1.3, *Additional Analysis to Ensure Compliance with Regulatory and Operational Limits*.

1.15.2 40 CFR, Subpart CC

1.15.2.a Compliance and Exemption

The Permittee shall manage waste with an average volatile organic concentration equal to or greater than 500 parts per million by weight (ppmw) at the point of waste origination in compliance with the requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264, Subpart CC). Waste with an average volatile organic concentration less than 500 ppmw at the point of waste origination is exempt from the requirement to comply with 20.4.1.500 NMAC (incorporating 40 CFR 264, Subpart CC), in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.1082(c)(1)).

Alternatively, the Permittee may elect to demonstrate compliance with this Permit Condition by documentation of compliance with a New Source Air Emissions Permit, to the extent that the documentation required under the New Source Air Emissions Permit duplicates the documentation required under this Permit Condition, in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.1089(h)).

1.15.2.b Initial Waste Determination

The Permittee shall use the test methods contained at 20.4.1.500 NMAC (incorporating 40 CFR 264.1083) to make an initial determination of compliance with Permit Conditions 2.4.2.b.i and 2.15.2.a for each waste stream managed at the Facility, as specified at Permit Attachment F1, Section 4.5.1.3. The initial determination shall be made before the first time a waste stream is placed in a permitted unit, and thereafter the determination for that waste stream shall be reviewed as necessary once every 12 months following the date of the initial determination, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.1082(c)(1)).

1.15.2.c Waste Determination after Process Change

The Permittee shall perform a new waste determination of compliance with Permit Conditions 2.4.2.b.i and 2.15.2.a for any waste stream whenever changes to the source generating the waste stream are reasonably likely to cause the average volatile concentration of the waste stream to increase to a level that is equal to or greater than the applicable volatile organic limit, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.1083(b)(1)(ii)).

1.15.2.d Waste Determination by the Secretary

The Secretary may at any time perform or request the Permittee to perform a waste determination for the average volatile organic concentration at the point of waste origination for a hazardous waste that is exempted from the requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264, Subpart CC), in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.1082(d)).

**1.16 GENERAL CLOSURE REQUIREMENTS {TC \L1 "2.17
GENERAL CLOSURE REQUIREMENTS }**

The Permittee shall close the Facility, or any permitted unit at the Facility, as specified at Permit Attachment O, *Closure Plan*; and as required by Permit Part 8 and 20.4.1.500 NMAC (incorporating 40 CFR 264.110 through 264.116).

**1.17 {TC \L2 "2.17.3 NOTIFICATION OF CLOSURE }{TC
\L2 "2.17.6 CERTIFICATION OF COMPLETION OF
CLOSURE }GENERAL POST-CLOSURE CARE REQUIREMENTS
{TC \L1 "2.18 GENERAL POST-CLOSURE CARE
REQUIREMENTS }**

The Permittee shall conduct post-closure care for the Landfill, or any other permitted unit that must be closed as a landfill, as specified at Permit Attachment P, *Post-Closure Care*; and as required by Permit Part 8 and 20.4.1.500 NMAC (incorporating 40 CFR 264.117 through 264.120).

1.18 LIABILITY COVERAGE

1.18.1 Sudden Accidental Occurrences

**1.18.1.a Liability Coverage Requirements for Sudden
Accidental Occurrences**

The Permittee shall have and maintain liability coverage for sudden accidental occurrences in the amount of one million dollars (\$1,000,000) per occurrence, with an annual aggregate of at least two million dollars (\$2,000,000), exclusive of legal defense costs, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.147(a)).

**1.18.1.b Documentation of Liability Coverage for Sudden
Accidental Occurrences**

The Permittee shall demonstrate to the Secretary, for approval, continuous compliance with the liability coverage required under Permit Condition 2.18.1.a, in accordance with Permit Condition 1.10, at least 60 days before receiving hazardous waste for management, treatment, storage, or disposal at the Facility, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.147(f)(4)). This liability coverage shall be effective before the first receipt of hazardous waste at the Facility.

1.18.2 Nonsudden Accidental Occurrences

**1.18.2.a Liability Coverage Requirements for Nonsudden
Accidental Occurrences**

The Permittee shall have and maintain liability coverage for nonsudden accidental occurrences in the amount of three million dollars (\$3,000,000) per occurrence, with an annual aggregate of at least six million dollars (\$6,000,000), exclusive of legal defense costs, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.147(b)).

**1.18.2.b Documentation of Liability Coverage for Nonsudden
Accidental Occurrences**

The Permittee shall demonstrate to the Secretary, for approval, continuous compliance with the liability coverage required under Permit Condition 2.18.2.a, at least 60 days before receiving hazardous waste for management, treatment, storage, or disposal at the Facility, in accordance with Permit Condition 1.10. The liability coverage shall be as required at 20.4.1.500 NMAC (incorporating 40 CFR 264.147(b)).

This liability coverage shall be effective before the first receipt of hazardous waste at the Facility, in accordance with Permit Condition 1.10.

**1.19 FINANCIAL INCAPACITY OF OWNERS OR OPERATORS,
GUARANTORS, OR FINANCIAL INSTITUTIONS**

1.19.1 Bankruptcy

The Permittee shall notify the Secretary by certified mail of the commencement of bankruptcy, and the name of any guarantor, within

ten days after commencement of the proceeding, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.148(a)).

1.19.2 Other Financial Assurance

The Permittee shall establish other financial assurance or liability coverage within 60 days from the date the trustee or institution issuing the surety bond, letter of credit, or insurance policy declares bankruptcy; otherwise the Permittee shall be deemed to be without the required financial assurance, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.148(b)).

1.20 FINANCIAL RESPONSIBILITY

The Permittee shall maintain financial assurance for both closure and post-closure costs and comply with all applicable requirements of 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart H), and Permit Condition 8.3.

TABLE 2-1

PERMITTED HAZARDOUS WASTES

| D Codes ¹ | F Codes ² | K Codes ³ | P Codes ⁴ | U Codes ⁵ |
|----------------------------------|----------------------|----------------------|----------------------|----------------------|
| D001 - Ignitability ^b | F001-F012 | K001-K011 | P001-P018 | U001-U012 |
| D002 - Corrosivity ^b | F019 | K013-K052 | P020-P024 | U014-U039 |
| D003 - Reactivity ^b | F024-F025 | K060-K062 | P026-P031 | U041-U053 |
| D004-D043 | F032 | K064-K066 | P33-P034 | U055-U064 |
| | F034-F035 | K069 | P036-P051 | U066-U099 |
| | F037-F039 | K073 | P056-P060 | U105-U138 |
| | | K083-K088 | P062-P078 | U140-U174 |
| | | K090-K091 | P081-P082 | U176-U194 |
| | | K093-K118 | P084-P085 | U196-U197 |

| | | | | |
|--|--|-----------|-----------|-----------|
| | | K123-K126 | P087-P089 | U200-U211 |
| | | K131-K132 | P092-P099 | U213-U223 |
| | | K136 | P101-P106 | U225-U228 |
| | | K141-K145 | P108-P116 | U234-U240 |
| | | K147-K151 | P118-P123 | U243-U244 |
| | | | | U246-U249 |
| | | | | U328 |
| | | | | U353 |
| | | | | U359 |

-
- 1 Wastes exhibiting the characteristics of ignitability, reactivity, corrosivity, and/or toxicity
 - 2 Wastes from non-specific sources
 - 3 Wastes from specific sources
 - 4 Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof
 - 5 P Code wastes identified as toxic wastes
 - 6 Only those ignitable, corrosive, or reactive wastes that can be treated by permitted methods at the Facility prior to placement in the Landfill shall be accepted.

PERMIT ATTACHMENT F**WASTE ANALYSIS PLAN**

**Modified from the Permit Application, Volume I,
Sections 4.0 through 4.5 and 4.5.2 through 4.9**

4.0 WASTE ANALYSIS PLAN

The Triassic Park Hazardous Waste Disposal Facility (the facility) is a commercial facility that receives hazardous waste generated off-site for treatment, storage, and disposal. This waste analysis plan establishes facility requirements for accepting and characterizing hazardous waste generated both off-site and on-site. The waste analysis plan requirements are established in the 1995 New Mexico Hazardous Waste Management Regulations at 20 NMAC 4.1.500 incorporating 40 CFR 264.13, 20 NMAC 4.1.800 incorporating 40 CFR 268.7, and 20 NMAC 4.1.900 incorporating 40 CFR 270.14(b)(3). The most recent revision of this waste analysis plan will be maintained at the facility as part of the facility Operating Record. The facility will continually upgrade the waste analysis plan with regard to the Land Disposal Restrictions (LDR) regulations contained in 40 CFR 268.

Section 4.1 identifies wastes which will be accepted at the facility and wastes which are prohibited. Section 4.2 lists criteria for waste acceptance and management. Sections 4.3 and 4.4 contain pre-acceptance procedures for initial acceptance of hazardous waste received from off-site generators and management procedures for incoming shipments of waste. The various waste analysis protocols that will be required at the facility are contained in Section 4.5. Sampling and analytical methods and protocols for quality assurance/quality control (QA/QC) are discussed in Sections 4.6 and 4.7. Section 4.8 explains the facility's waste tracking system. Section 4.9 summarizes notification, certification, and recordkeeping requirements related to waste analysis.

4.1 PERMITTED AND PROHIBITED WASTE

Section 4.1.1 identifies hazardous waste permitted for acceptance at the facility. Hazardous waste prohibited at the facility is identified in Section 4.1.2.

4.1.1 Permitted Waste

The facility will treat, store, and/or dispose only those hazardous wastes listed in Part A of the facility permit application. Only hazardous waste which meets the Land Disposal Restrictions (LDR) treatment standards identified in 40 CFR 268, Subpart D, or can be treated at the facility to meet these standards, will be accepted. These treatment standards are applicable to both primary contaminants and underlying constituents.

4.1.2 Prohibited Waste

The Facility will not accept the following wastes from off-site generators:

- **dioxin-contaminated wastes.** - Wastes listed in 40 CFR 268.31 as adopted by 20 NMAC 4.1.800;

This submittal supersedes all previous information.

- **certain PCB-contaminated liquids.** - Ignitable PCB-contaminated liquids or liquids with PCB concentrations greater than or equal to 50 ppm;
- **certain PCB-contaminated soils.** - Soils with PCB concentrations greater than or equal to 500 ppm will not be accepted at the facility, except for those soils (or other wastes) which are PCB bulk product waste or PCB remediation waste (40 CFR 761). The facility may obtain a permit from EPA for management of Toxic Substances Control Act (TSCA) wastes in order to accept other wastes containing PCB concentrations greater than 500 ppm. A copy of this permit will be transmitted to the New Mexico Environment Department (NMED) before such waste is accepted;
- **organic liquids/sludges.** - Liquids/sludges with organic concentrations at levels that make them subject to the treatment, storage, and disposal requirements described in 40 CFR 264 Subpart AA or CC; and that have not been treated, prior to receipt at the facility, to applicable LDR treatment standards (40 CFR 264 Subpart AA and CC as adopted by 20 NMAC 4.1.500);
- **explosives.** - Any substance or article, including a device, which is designed to function by explosion (i.e., an extremely rapid release of gas and heat) or which, by chemical reaction within itself, is able to function in a similar manner even if not designed to function by explosion;
- **radioactive/nuclear materials.** - Materials regulated by the NMED or the New Mexico Oil Conservation Division and defined in 20 NMAC 3.1 Subpart 14, or materials regulated under the Atomic Energy Act of 1954, as amended (including source, special nuclear materials and byproduct materials as defined in 10 CFR 20.1003);
- **medical waste.** - Waste including infectious/biologic/pathogenic solid waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals. This also includes infectious waste as defined in NMAC 9.1.105.AL.;
- **Packing house and killing plant offal.** - Defined as a special waste by 20 NMAC 9.1.105. BZ;
- **certain hazardous debris.** - Hazardous debris which has not been treated, prior to receipt at the facility, to meet the LDR treatment standards;
- **certain lab packs.** - Lab packs which contain wastes [identified in 40 CFR 268, Appendix IV (adopted by reference in 20 NMAC 4.1.800)] excluded from lab packs under the alternative treatment standards of 40 CFR 268.42(c) (adopted by reference in 20 NMAC 4.1.800);
- **compressed gases.** - Gases stored at pressures higher than atmospheric; and
- **unknown or unidentified waste.** - These wastes cannot be accepted at the Facility except by special provision and direction from the NMED Secretary (e.g., emergency clean-up operations) or until full characterization has been performed.

This submittal supersedes all previous information.

4.2. CRITERIA FOR WASTE MANAGEMENT AT THE FACILITY

Waste managed at the facility must meet the facility's criteria for acceptance and management. Waste analysis (or, in some cases, acceptable process knowledge (AK)) will be used to ensure determination of:

- complete characterization of the waste;
- compliance with LDR treatment standards, including, where applicable, underlying constituents. If the waste stream does not meet the LDR treatment standards, the waste will be rejected if the facility does not have the appropriate treatment capability to bring it into compliance;
- compliance with the facility's regulatory and operational limits (e.g., the waste is not included in the permitted wastes listed in Part A of this application or the waste does not meet other operational boundaries established by this WAP).

The criteria to be used to evaluate acceptable knowledge (AK) validity, appropriateness, and adequateness will include:

- Relationship of wastes generated to process information;
- Availability of supporting analytical data and results;
- Correlation of waste material with processes/product chemistry;
- Process line variability with respect to waste generation;
- Waste alteration/treatment activities and resulting waste characterization; and
- Any other relevant information to assess acceptability of information.

4.3 PRE-ACCEPTANCE PROCEDURES FOR OFF-SITE WASTE

Before a waste stream is accepted, all off-site generators will be required to provide a complete waste characterization (Section 4.3.1). After evaluating the paperwork supplied by the generator (Section 4.3.2), the facility will send a representative sample of the waste to a laboratory for analysis and will evaluate the analytical results (Section 4.3.3). Finally, the facility will notify the generator that the facility will accept the waste stream (Section 4.3.4).

4.3.1 Waste Characterization Information Provided by the Generator

The activities associated with pre-acceptance of off-site waste streams are shown in Figure 4-1. The generator must provide the following waste characterization information for each waste stream:

- a completed Waste Profile Form signed by an authorized agent of the generator. An example of a Waste Profile Form is contained in Permit Attachment F2. This form may be changed if the facility believes that more information is warranted or if there are changes in regulations governing the facility;

- other documentation that supports the information presented on the Waste Profile Form (e.g., Material Safety Data Sheets);
- a description of the process that generated the waste;
- a completed Land Disposal Restriction Notification;
- all other supporting data required by 40 CFR 268.7;
- all required certifications;
- waste analysis data used to characterize the waste and/or process knowledge documentation; and
- a representative sample of the waste, of adequate volume for analysis.

Insert Figure 4-1, Pre-Acceptance Procedure for First Time Waste

This submittal supersedes all previous information.

If waste analysis is used to characterize the waste, the generator must supply, at a minimum, the following waste analysis data for each representative sample:

- identification of the sample medium (e.g., aqueous, sludge, soil);
- information about waste stratification
- brief description of the sampling strategy, including
 - a description of the sampling technique (i.e., biased or random);
 - rationale for selection of the number and location of samples;
 - a description of the statistical approach, if any; and
 - the sample type (i.e., grab or composite);
- identification of the analytical methods that were used and the rationale for the selection of these parameters;
- final laboratory reports including case narratives, waste analyses, and quality assurance/quality control analyses; and
- identification of the laboratory which performed the waste analyses.

The facility will evaluate the way each representative sample was obtained in order to determine whether it is truly representative of the waste stream. The facility will evaluate the information provided by the supplier and will use the documents listed below for guidance.

- The Sampling Plan, Section 4.6 of this document
- Standard Practice for Sampling Waste and Soil for Volatile Organics (American Society for Testing and Materials (ASTM) D4547-91)
- Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, Part III (US Environmental Protection Agency Publication SW-846, latest edition)
- RCRA Sampling Procedures Handbook (EPA Region VI)

In certain cases, generators may meet waste analysis requirements by supplying "acceptable knowledge". Acceptable knowledge includes process knowledge and waste analysis (Permit Attachment F4 identifies acceptable knowledge requirements for foreign generators). Process knowledge includes detailed information of a waste obtained from existing published or documented waste analysis data or studies on hazardous wastes generated by processes similar to that which generated the waste, or industry or trade association hazardous waste profile studies, or EPA documents. Examples of waste streams where process knowledge may be adequate for characterization are K-listed wastes (hazardous wastes from specific sources), which are identified by comparing the specific process that generated the waste to those processes listed in 40 CFR 261.32. The application of process knowledge is appropriate where the physical/chemical make-up of the waste is well known and consistent. Process knowledge is often used in conjunction with physical and analytical analysis.

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Foreign Generators shall, in addition to all of the above requirements, analysis wastes at an accredited laboratory in accordance with Section 4.7.4, *Laboratory Requirements for Foreign Generators*, and shall characterize all waste streams in accordance with Permit Attachment F4, *Waste Characterization Using Acceptable Knowledge*.

This submittal supersedes all previous information.

4.3.2 Paperwork Evaluation

The facility will evaluate all of the waste characterization paperwork to determine if it adequately represents the physical and chemical characteristics of the waste stream and whether the waste stream is appropriate for management at the facility. As part of the pre-shipment process, the facility will work with the off-site waste generator to ensure that all necessary waste analyses and waste characterization information are provided to meet the applicable requirements for acceptance.

If waste analysis was used to characterize the waste, the facility will evaluate the data to determine that:

- appropriate extraction and preservation techniques were used;
- appropriate sampling strategies were used;
- appropriate sample types were collected (e.g., to demonstrate compliance with the LDR treatment standards, hazardous waste regulations require that grab samples be collected for nonwastewaters and composite samples be collected for wastewaters);
- appropriate parameters were selected for analysis;
- appropriate analytical methods were used;
- recommended holding times were met;
- detection limits were below applicable standards (e.g., the LDR standards); and
- the quality of the analytical data is adequate for making a waste determination based on an evaluation of the final laboratory reports.

If the data supplied are not adequate to provide a complete characterization of the waste stream, the facility will either require additional information from the generator or will not agree to accept the waste.

All of the waste characterization information supplied by the generator will be maintained in the facility's Operating Record. In addition, the facility's evaluation of this information and the results of the independent analysis will be maintained in the Operating Record.

4.3.3 Representative Sample Assessment

After evaluation and approval of the sample representativeness and waste characterization data paperwork, the representative sample submitted by the generator will be analyzed by a qualified laboratory other than the one used by the generator. Based upon the facility evaluation of the information supplied by the generator, the facility will inform the laboratory of the medium type (e.g., liquid, aqueous, solid) and appropriate parameters for analysis. The rationale for selection will be maintained in the facility Operating Record.

The generator's Waste Profile Form will be compared with the results of the laboratory analysis of the representative sample and with the facility's permit to ensure that the waste is acceptable for storage, treatment, and/or disposal at the facility. Should there be a discrepancy between the analytical results and the generator information, the facility will contact the generator to resolve the discrepancy. The generator will

not be authorized to ship the waste until all discrepancies are resolved. If the discrepancies cannot be resolved with the information provided by the generator, the facility will request a new Waste Profile Form and any additional information that may be required to characterize the waste adequately. In addition, the facility may require the generator to submit additional samples of the waste for analysis. If the generator cannot supply adequate information to provide a complete characterization of the waste stream the facility will not accept the waste. The generator will submit a new Waste Profile Form for each new waste stream and for an existing waste stream if it is modified significantly.

4.3.3.1 Major Discrepancies

Major discrepancies include the following:

- analytical results indicating that the generator applied an incomplete or wrong waste code to the waste stream;
- analytical results indicating that the generator submitted incomplete or wrong information on the LDR Notification Form;
- analytical results including constituents or underlying hazardous characteristics that are not explained by a description of the process; and
- other information indicating that the waste stream is not characterized properly.

In the event of a major discrepancy, the facility will reject the paperwork and require the generator to analyze the waste in accordance with a sampling plan that is consistent with the guidance in EPA document SW-846, *Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods*, Chapter 9. The facility will require the generator to resubmit the waste characterization information listed in Section 4.3.1 and one or more additional representative samples for analysis.

4.3.3.2 Minor Discrepancies

Minor discrepancies include any other waste characterization discrepancy (e.g., discrepancies which do not question hazardous waste code assignments, waste treatment, or the presence of prohibited items). In the event of a minor discrepancy, the facility will work with the generator to resolve the discrepancy. For example, uncertainties regarding whether sorbents are present will be handled as minor discrepancies. The facility will contact the generator if the Waste Profile Form does not indicate whether a sorbent was added to the waste, or it indicates that a sorbent was added but does not specify the name and type of sorbent and whether it is biodegradable. If the generator cannot provide this documentation, the waste must be tested to determine if it contains a biodegradable sorbent. If the waste is determined to contain a biodegradable sorbent, it will be stabilized prior to disposal or rejected.

4.3.3.3 Additional Waste Acceptance Conditions

In addition to complete characterization of the waste, the facility will also evaluate the waste to ensure that it can be managed at the facility. Waste analysis will be conducted where necessary to ensure:

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- the waste is not prohibited (e.g., the waste is included in Part A of this application, is not listed in Section 4.1 as a prohibited waste, or does not exceed allowable PCB concentrations or include dioxins);
- the LDR treatment standards contained in 40 CFR, 268, Subpart D, including the standards for underlying hazardous constituents, are met;
- the general requirements contained in 40 CFR 264.17 for ignitable, reactive, and/or incompatible waste are met;
- the special requirements for bulk and containerized liquids contained in 40 CFR 264.314 are met; and
- the waste does not contain biodegradable sorbents, as required in 40 CFR 264.314(e).

All major and minor discrepancies, discrepancy resolutions, and compliance with the additional waste acceptance conditions listed above will be documented in writing and maintained in the facility Operating Record.

4.3.4 Notification and Approval of Waste Shipment

After the facility determines that the waste stream meets the pre-acceptance requirements, the facility will send a written notification to the generator. This notification will include:

- a statement that the waste is acceptable for shipment;
- a unique identifier number for the waste stream, assigned by the facility (see Section 4.10);
- instructions to put the unique identifier number on all shipment paperwork and all future waste characterization data that are submitted for the waste stream;
- a requirement to notify the facility at least 24 hours before shipping, so that the facility can ensure that there are sufficient resources and capacity to manage the shipment when it arrives;
- a statement that the facility reserves the right to delay shipments beyond the 24-hour time-frame;
- instructions to ensure safe management of the waste (e.g., packaging or labeling requirements not otherwise required by regulations);
- if the generator has treated the waste prior to shipment to meet applicable LDR treatment standards, a requirement that the generator develop and follow a written waste analysis plan which describes the procedures used; and
- a requirement that the generator retain on-site a copy of all notices, certifications, demonstrations, waste analysis data, and other documentation produced pursuant to characterization of the waste stream for five years from the date that the waste was last sent to the facility.

Once the facility has completed pre-acceptance requirements and has determined that a waste stream is acceptable for shipment, the on-site laboratory will be notified in writing. The notification will include the waste type, waste stream identifier, physical form, packaging, and how the waste is to be managed. This information will be used by the laboratory as follows:

- the waste stream identifier will be used to track the samples in relation to the waste stream;
- the waste type and management methods (storage, solidification, evaporation, and/or disposal) will be used to help determine the analytical methods that will be employed for fingerprint analysis; and
- the physical form and packaging will determine the most applicable sampling methods.

Using this information, the on-site laboratory will designate a sampling and analytical protocol specific to each waste stream as described in Section 4.6. The unique identifier number for the waste stream will be used to track all activities for the waste stream. Individual shipments from within the waste stream will receive an additional identifier to enable the facility to tie information back to the specific shipment as well as to the waste stream.

4.4 PROCEDURES FOR INCOMING WASTE ACCEPTANCE

The activities associated with incoming waste shipments (typically, in drums, roll-off boxes, vacuum trucks, and tanker trucks) are shown in Figure 4-2. These procedures will be used for both initial shipment of a waste stream as well as for waste streams that have previously been accepted by the facility from the same generator and process. The facility will review the waste shipment paperwork and resolve paperwork discrepancies (Section 4.4.1), and visually inspect the waste inside the containers and roll-off boxes (Section 4.4.2). Waste analyses for incoming shipments consist of fingerprint analysis and an annual analysis to update characterization of the waste stream (Section 4.4.3). Based on the facility's evaluation of the waste stream, a determination to accept or reject the waste will be made (Section 4.4.4).

4.4.1 Paperwork Review

Upon receipt of a waste shipment, the truck will be routed to a parking area outside the facility gate while documents are reviewed. The facility will:

- review all paperwork for completeness to verify that all required documentation is present and signed as necessary;
- compare the information in the manifest, the Waste Profile Form, the LDR Notification Form, and pre-acceptance waste characterization information for consistency;
- compare the number of containers, the volume or weight of the waste, and the waste labels on each container with the manifest for consistency; and
- review all paperwork to verify that the unique identifier number for the waste stream is on all the waste shipment paperwork and all accompanying waste characterization data.

If the facility determines that the paperwork is complete and consistent, the waste shipment will be routed to the truck sampling station, a staging area inside the facility gate.

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Insert Figure 4-2, Incoming Waste Shipment Procedures

This submittal supersedes all previous information.

If the facility determines that the paperwork is incomplete or inconsistent, the waste shipment will be routed to a segregated, secure area inside the facility gate pending resolution of the discrepancies. An attempt will be made to resolve discrepancies with the waste generator or transporter within 24 hours. In those instances where a discrepancy with the manifest cannot be resolved within 15 days of receiving the waste, a letter will be submitted to NMED describing the discrepancy and the attempts made to reconcile it. A copy of the manifest or shipping paper at issue also will be provided to NMED, as specified in 40 CFR 264.72(b). If the facility is unable to resolve the manifest discrepancies, the waste will not be accepted.

The facility will resolve significant manifest discrepancies in accordance with 40 CFR 264.72. Manifest discrepancies are differences between the quantity or type of hazardous waste designated on the manifest and the quantity or type of hazardous waste contained in the shipment received at the facility.

Significant discrepancies in quantity are:

- ♦ **bulk waste.** - Variations greater than 10 percent in weight; and
- **batch waste.** - Any variation in piece count, such as a discrepancy of one drum in a truckload.

Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

All discrepancy resolutions will be documented in writing and maintained in the facility Operating Record. If manifest discrepancies are not resolved within 90 days of identifying the discrepancy, waste will not be accepted for storage or disposal, and the waste will either be returned to the sender or disposed at an appropriate off-site facility.

4.4.2 Visual Inspection

After all paperwork discrepancies have been resolved, the facility will physically open and inspect the waste inside drums and roll-off boxes for color, similar physical appearance (e.g., single phase, bi-layer, multi-layer), and physical state (e.g., solid, semi-solid, or liquid). This information will be compared with the waste characterization information provided by the generator and the physical appearance of the representative sample. If the color and/or viscosity of bulk wastes (solids and sludges) appear inconsistent, the facility may elect to perform additional chemical tests, i.e., composite samples would be taken from within the different areas of coloration or viscosity.

The facility will inspect a minimum of 10 percent of all drums of each waste stream per shipment (but not less than one drum per waste stream), and each roll-off container or tanker truck.

The facility will physically open all containers of hazardous debris and inspect the contents to ensure that the waste shipment matches the waste that is expected. Prior to acceptance of hazardous debris the facility will require the generator to provide a certification that the waste has been treated in accordance with the requirements defined for the treatment of hazardous debris in 40 CFR 268. Hazardous debris is visually inspected because it is exempted from the representative sample waste analysis requirements discussed in Section 4.7.2. This visual inspection will ensure that the waste stream matches the description provided by the generator.

Certain loads may not be sampled, at the discretion of the facility manager or laboratory supervisor, for environmental and safety reasons (e.g., severe weather which causes unsafe working conditions). In these cases, the generator or his agent will be required to provide a signed certification that the load conforms to the Waste Profile Form. This variance from established procedure will be documented in the facility Operating Record.

If a discrepancy is found, the facility will contact the waste generator for resolution (see Section 4.4.1). The results of visual inspections and all discrepancy resolutions will be documented in writing and maintained in the facility Operation Record. If discrepancies noted during visual examination are not resolved within 90 days of identifying the discrepancy, waste will not be accepted for storage or disposal, and the waste will either be returned to the sender or disposed off-site at an appropriate facility.

4.4.3 Waste Analysis for Incoming Shipments

Waste analysis for incoming shipments consists of fingerprint tests (Section 4.5.4) and an annual analysis to ensure correct characterization of each waste stream (Section 4.5.3).

4.4.3.1 Fingerprint Test Procedure

Fingerprint testing is an abbreviated analysis and is used to confirm that an incoming shipment of waste received at the facility is the actual waste expected and that it matches the expected chemical content for that waste. Fingerprint analysis will be conducted on each waste stream in each shipment prior to shipment acceptance. Fingerprint analysis will be conducted generally for parameters that will give information that can be used to help verify that a waste stream received from off-site matches the expected characteristics of the waste.

While the incoming shipment is staged at the sampling station, laboratory personnel, or other trained personnel, will review the sampling and laboratory requirements for the specific waste stream. After completion of this review, sampling personnel will obtain the necessary samples in the manner prescribed by the Sampling Plan and applicable laboratory requirements. Sampling will be conducted in accordance with approved site operating procedures. These procedures will detail the sampling requirements, sample labeling, chain-of-custody requirements, any necessary sample preservation requirements, and other sampling components (see Section 4.6).

Each waste stream in each shipment will be sampled in accordance with the following sampling rate, at a minimum:

- **bulk waste.** - One sample will be collected from each shipment of bulk waste (one shipment of bulk waste is considered to be one truck load or one roll-off box). If, upon visual inspection, the color and viscosity of solids or sludges appear inconsistent, the Facility may elect to obtain additional samples. These samples would be composites from within the different areas of color or viscosity; and
- **batch waste.** - One sample will be collected from each ten waste drums in each waste stream in each shipment. If there are less than ten waste drums in the waste stream, one drum will be sampled. One sample will be collected from each drum if the waste appears to be inconsistent with the pre-acceptance waste characterization data.

The facility can increase this sampling rate for any reason. For example, the facility may decide to collect additional samples if the waste appears to be inconsistent with the pre-acceptance characterization data. In some instances, the facility may elect to waive one or more analyses under the following conditions:

- the transported waste is a portion of a continuously shipped, well documented waste stream, such as waste produced from a consistent, non-variable process or contaminated soils from a specific remedial action;
- the waste has been approved for receipt by NMED on an emergency basis; or
- facility personnel at the point of generation sampled, or oversaw the sampling of, the waste, and the fingerprint test/supplemental analyses have been conducted. (In cases where a generator is sending very large or continual shipments, the facility may elect to station personnel at the point of generation to obtain samples prior to or during loading of the waste).

Prior to waiving sampling and analysis requirements, however, the facility will request a variance from NMED and will not dispose of the waste until NMED approval is received.

4.4.3.2 Annual Analysis Procedure

As part of the facility's QA/QC procedures (see Section 4.7), the representative sample analysis for each waste stream from each generator will be repeated annually. Repeating this pre-acceptance procedure will ensure that the analysis is accurate and up-to-date and that the waste stream has remained within the operational bounds of the facility. This annual analysis will be performed by an independent laboratory. This analysis will be repeated more frequently if the facility believes, or has been informed by the generator, that the process generating the waste stream has changed. In the case of a change in the waste generation process the waste stream will be managed as a new waste stream in accordance with the requirements of this waste analysis plan.

4.4.4 Acceptance/Rejection Determination

4.4.4.1 Discrepancy Resolution

Upon completion of the fingerprint analysis, a determination will be made as to whether or not the wastes are consistent with the pre-acceptance waste characterization information and within acceptance limits of the facility and specific management units. If any of the analyses determine the waste is not within the operational acceptance limits for a specific management unit, the waste will not be accepted by the facility for that unit. If the results of the analysis conflict with the waste profile information, the facility may take any or all of the following actions:

- resample the waste, if necessary, and perform a second fingerprint test. The facility manager has discretion to accept the waste if the second fingerprint results match those on the waste profile sheet. The discrepancy between results will be explained and included in the facility Operating Record for that waste stream or shipment;
- perform further characterization as necessary to verify the composition of the waste by sending a sample to a qualified independent analytical laboratory; and/or

- reject the entire waste shipment or the nonconforming portion of the shipment.

If discrepancies between fingerprint analysis and waste stream characterization information exist upon completion of discrepancy resolution, the waste will be rejected by the facility. The facility will return the rejected waste to the generator or ensure proper disposal of the waste at an appropriate off-site facility within 30 days of the waste rejection.

4.4.4.2 Shipment Acceptance Procedures

Once the decision has been made to accept a waste shipment, the appropriate papers will be signed for the generator, and the waste stream will be transported by truck to an appropriate management unit.

4.5 WASTE ANALYSIS

Tables 4-1 through 4-3 specify parameters which will be analyzed to ensure that all criteria for waste acceptance and management are met. The facility will use approved SW-846 or ASTM analytical methods, or other approved method. If an alternative method not contained in SW-846 is to be used, the facility will demonstrate that such alternative method is equivalent to the approved method contained in SW-846 or this waste analysis plan. Alternative methods will be submitted to the Secretary at least 15 days prior to the sample collection event.

Permit Attachment F1, Section 4.5.1, identifies the rationale for selecting parameters and analytical methods which will be used to test hazardous waste managed at the facility. Requirements for the pre-acceptance analysis of a representative sample of waste generated off-site and for the annual analysis are discussed in Sections 4.5.2 and 4.5.3, respectively. Section 4.5.4 contains requirements for fingerprint testing. Section 4.5.5 contains waste analysis requirements specific to storage, treatment, and disposal units. Section 4.5.6 contains requirements for waste analysis of waste generated on-site.

TABLE 4-1
PARAMETERS AND METHODS FOR PRE-ACCEPTANCE REPRESENTATIVE SAMPLE ANALYSIS

| Waste Parameters | Extraction/Sample Preparation | Method ¹ |
|--------------------------------|-------------------------------|---|
| Volatile Organic Compounds | 5021 5031 5032 5035 | 8260 |
| Semivolatile Organic Compounds | 3510 3520 | 8270 |
| Organochlorine Pesticides | 3510 3520 | 8081/8270 |
| PCBs | 3520 | 8082/8080 |
| TCLP: Organics | 1311 | 8260/8270/8080/8150 |
| Chlorinated Herbicides | 81512 | 8151 |
| Reactive Cyanide | | 9014 |
| Reactive Sulfide | | 9034 |
| Water | | ASTM C566 |
| Ignitability | | 1010/1030 |
| Flashpoint | | 1010/1020A |
| Corrosivity to metals | | 1110 pH paper pH electrometer 9040A/9041A/9045A |
| pH | | 9040A/9041A/9045A |
| Dioxins | | 8280 |
| Total Metals | 3000 1311 | 6000 series 7000 series |
| Liner Compatibility Tests | | 9090A |
| Extractable volatiles | 3500 | 8260 |
| Extractable semivolatiles | 3500 | 8270 |
| Physical appearance | | ASTM D4979 |
| Radioactivity | | Industry standard survey technique (e.g., scintillation detector) |

Notes: ¹Most current revision of SW-846 will be used.
²Method 8151 contains the extraction, cleanup, and determinative procedures for these analytes.

This submittal supersedes all previous information.

TABLE 4-2
TESTS AND ANALYTICAL METHODS FOR FINGERPRINT SAMPLES

| Test | Method and Description | Qualitative or Quantitative |
|-------------------------------|--|-----------------------------|
| Flammability Potential Screen | ASTM D4982 | Qualitative |
| Free Liquids | Paint filter test, penetrometer, or visual/9095 | Qualitative |
| Ignitability | Match test, Pansky-Martens closed cup or Set-a-flash 1010/1020A | Qualitative |
| Miscibility | 50/50 mixture with water | Qualitative |
| Water Mix | ASTM D5058 Test Method C | Qualitative |
| Chlorinated Solvents | Colorimetric test or Beilstein test | Quantitative |
| Cyanide | Electrode or colorimetric test (ASTM D5049 Test Method B) | Quantitative |
| PCBs | Colorimetric test/8080 | Quantitative |
| Specific Gravity | Hydrometer/Method dependent on material composition and physical state | Quantitative |
| Sulfide screen | ASTM 4978 | Quantitative |

TABLE 4-3
ADDITIONAL TESTS AND ANALYTICAL METHODS

| Test | Reference | Description |
|---|------------------------------|--|
| Paint Filter Test | EPA 9095 | This test will determine the free liquids that are contained within the waste matrix and will be used as a control parameter for wastes that are to be landfilled. |
| Heavy Metals | 6010A/7470 | This test determines the concentration of heavy metals. |
| Free Cyanides | APHA 412G, H | This test determines if cyanides could potentially be reactive under acidic conditions. |
| Toxicity Characteristic Leaching Procedure ¹ | Extraction Method 1311/3010A | Determines if waste, or stabilized waste, contains level of restricted constituents above BDAT treatment standards. |
| Total Organic Halogens | EPA 9020 | Determines if the waste potentially contains LDR constituents above BDAT standards for ☐California List☐ wastes. |
| PCBs | Colorimetric test/ EPA 8080 | Determines if PCBs are contained in the waste matrix and determines the concentration. |
| IR Scan | ASTM D2621, D4053 | Determines the presence of organics and provides a rough estimate of their concentration. |
| ¹ Analytical method chosen is dependent upon constituent being determined (i.e., Organics 8260, 8270, 8080). | | |

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4.5.2 Representative Sample Analysis

The facility will select parameters for analysis to ensure that the criteria for waste acceptance identified in Section 4.2 are met. The analysis will include, at a minimum, testing for each hazardous waste contained in the waste stream, as identified by EPA hazardous waste code, and for each underlying hazardous constituent, as identified in 40 CFR 268.48, Table 4-1, *Parameters and Methods for Representative Sample Analysis*. Additionally, parameters on Tables 4-2, *Tests and Analytical Methods for Fingerprint Analysis*, and 4-3, *Additional Tests and Analytical Methods*, will be included, as applicable.

For foreign wastes, in addition to the conditions specified above, representative sample analysis for each waste stream shall include testing for all constituents listed in 40 CFR 268.48 using practical quantitation limits capable of measuring the standards specified in 268.48. The results of this test will be used to perform the comparison with the generator's Waste Profile Form specified in the *Representative Sample Assessment* Section (Waste Analysis Plan Condition 4.3.3). Testing for all constituents listed in 40 CFR 268.48 shall not be required for the annual analyses.

Hazardous debris, as defined in 40 CFR 268.2(g), that has already been treated to meet the LDR treatment standards as described in 40 CFR 268.45 does not have to meet the representative sample analysis requirements if the facility determines that the generator provided waste characterization information that demonstrates that the proper EPA Hazardous Waste Numbers were applied and indicates whether or not the LDR treatment standards have been met.

4.5.3 Annual Analysis

The representative sample analysis for each waste stream from each generator will be repeated annually at an independent laboratory not used by the generator (see Section 4.4.3.2).

4.5.4 Fingerprint Analysis

Fingerprint samples will be analyzed for all parameters listed on Table 4-2, and may include tests for physical appearance, pH, and radioactivity. Additional fingerprint parameters will be selected based on the pre-acceptance waste characterization data, shipment paperwork, physical form of the waste, and the visual inspection of the contents of containers and bulk waste. The facility will follow the additional parameter selection process described in Section 2.2 of the EPA guidance document, *Waste Analysis at Facilities That Generate, Treat, Store, and Dispose of Hazardous Wastes* (EPA, OSWER 9938.4-03, April 1994).

Because the facility already knows the detailed chemical and physical properties of a waste, additional necessary and appropriate fingerprint or spot check parameters can be chosen easily, since the purpose of the fingerprint is only to verify that the waste fingerprint analysis will include, at a minimum, the parameters received is the waste expected. These parameters will be analyzed at the on-site laboratory. Analyses which are not within the on-site laboratory's capability will be sent to an independent laboratory for analysis.

Fingerprint analysis will also include parameters as necessary to ensure that the waste is within the facility regulatory and operational acceptance limits (see Table 4-3). To select these additional sample parameters, the facility will consider:

- compliance with applicable regulatory and permit requirements. (This may require selection of parameters not reported by the generator);
- identification of incompatible and inappropriate wastes; and
- process and design considerations.

As noted, fingerprint analysis helps the facility minimize the potential to receive waste that is unacceptable. Therefore, the level of additional analysis required for a waste shipment is a function of facility knowledge about the waste generation process and the waste generator. The facility may elect to perform additional fingerprint tests to achieve a higher level of confidence that a full waste characterization is achieved. If discrepancies are noted between the received waste and the Waste Profile Form, the waste will be further analyzed using additional fingerprint parameters. Discrepancies that can result in the facility requiring additional analysis include non-conformance with the results of required testing or a change in color, texture, liquid content, or other characteristics that can be observed upon receipt.

The facility will follow the additional parameter selection process described in Section 2.2 of the EPA guidance document, *Waste Analysis at Facilities That Generate, Treat, Store, and Dispose of Hazardous Wastes* (EPA, OSWER 9938.4-03, April 1994).

4.5.5 Additional Analysis for Specific Management Units

4.5.5.1 Overview of Waste Management Procedures in Permitted Hazardous Waste Management Units

Upon completion of the fingerprint analysis, and supplemental analyses if conducted, waste will be transferred to the appropriate staging area. Prior to interim or final disposition of the waste, however, additional analyses may be required to ensure that requirements for permitted hazardous waste management units are met.

Analysis necessary for specific management units is generally conducted as part of the pre-acceptance procedure (see Section 4.7.2). Appropriate parameters will be selected from Tables 4-2 and 4-3. The facility will use a combination of process knowledge and analytical results to obtain the information needed prior to placing waste in one of the management units. The facility may elect to use other EPA approved analytical methods if it is felt that information other than that obtainable by these methods is needed to manage the waste safely.

All hazardous waste management units will have specific ignitability, reactivity, and compatibility requirements which must be met. Acceptable knowledge or waste analysis will be used to determine whether a waste stream is ignitable, reactive, or incompatible with other wastes when stored or mingled. In addition, acceptable knowledge or waste analysis will be used to determine whether the waste stream is compatible with the container or tank in which it is placed, or with the liner of the evaporation pond or landfill. Specific ignitability, reactivity, and compatibility tests will be conducted as part of the representative sample analysis, and may be repeated in the fingerprint test, for wastes assigned to specific management units. Management of these wastes is discussed in Vol. I, Section 5.5 of this application. Ignitability, reactivity, and compatibility determination is discussed in Section 4.5.1.2.

The facility will conduct compatibility tests as part of the representative sample analysis procedure on an incoming waste stream specific to each management unit and specific to other waste streams with which it

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may be combined. Special requirements for specific management units are discussed in Sections 4.5.5.2 through 4.5.5.5.

4.5.5.2 Waste Analysis Requirements Specific to Storage Units.

Wastes will be stored in the drum storage building, the roll-off container storage area, and the liquid waste storage tanks. Waste characterization is accomplished through the representative sample analysis, the yearly update of the representative sample analysis, and on-going fingerprint analysis. The ignitability, reactivity, and incompatibility of each waste stream will be determined using procedures listed in Table 4-2 to ensure that stored waste is compatible with other wastes and with the container or tank in which it is placed. Spills or releases of hazardous waste and/or fluids removed from the leak detection systems will be tested to determine if the recovered material is hazardous.

Procedures from Table 4-3 will be used to determine whether a hazardous waste stored in containers must comply with the requirements of 40 CFR 264, Subpart CC. If it must comply, the container will be managed to meet Container Level 1 and Level 2 standards as appropriate. Waste which must comply with the requirements of 40 CFR 264, Subpart CC, will not be placed in storage tanks.

The facility will ensure that containers are either at least 90 percent full when placed in the landfill, or are crushed, shredded, or similarly reduced in volume to the maximum practical extent.

4.5.5.3 Waste Analysis Requirements Specific to the Evaporation Pond

Liquid waste streams may be placed in the evaporation pond for drying before they are sent to the stabilization tanks for solidification. Following evaporation of the pond liquids, sludge will be removed from the bottom with trash pumps or hand excavation equipment.

Waste will be characterized by representative sample analyses and fingerprint analyses, using the parameters listed on Tables 4-1 through 4-3, as applicable, before it is placed in the evaporation pond. A determination of ignitability, reactivity, and incompatibility with other wastes with which the waste may be combined and with the pond liner will be made. It will also be tested to ensure that the LDR standards are met and that the waste placed in the pond does not contain volatile organic concentrations equal to or greater than 500 ppmw.

Because evaporation in the pond may change the chemical composition of the waste, or different waste streams may be combined in the pond, analysis to ensure that the LDR standards are met will be conducted on a waste stream after it leaves the pond. Applicable knowledge will be used to determine appropriate parameters for analysis. If, after treatment, a waste displays a characteristic for the first time, the characteristic waste code will be added to the LDR Notification Form and facility records. The waste will be retreated, if necessary, to meet the characteristic treatment standard before land disposal.

Dilution of restricted wastes will not be used as a substitute for adequate treatment for non-toxic hazardous characteristic waste. If toxic characteristic wastes and listed wastes are amenable to the same type of treatment and aggregation is a part of treatment, then the aggregation step does not constitute impermissible dilution.

4.5.5.4 Waste Analysis Requirements Specific to the Stabilization Tanks

Waste treated in the stabilization tanks is characterized to determine the hazardous constituents contained in the waste and to ensure that waste placed in the stabilization tank is compatible with the tank liner and with the previous waste type treated. Acidic or caustic material may be neutralized by the stabilization process.

In addition to the representative sample provided by the generator during the pre-acceptance period, a second representative sample of any waste requiring stabilization prior to placement in the landfill (or a sample of waste coming from the evaporation pond for stabilization) must be supplied. This sample will be used for bench-scale testing to determine regulated constituent leaching based on varying admixtures and ratios (i.e., to determine treatability of wastes). The stabilization process will result in a dry and structurally stable material that is suitable for compaction and landfilling.

Bench-scale tests will be conducted as part of the representative sample analysis for incoming waste streams which will go directly to the stabilization tanks, or for a waste stream from the evaporation pond. Selection of treatment reagents and quantities will be established according to the waste profile and the post-treatment LDR requirements. Stabilization agents that will be tested include, but are not limited to, lime, fly ash, and Portland cement.

The waste will also be treated to ensure that it does not contain volatile organic concentrations equal to or greater than 500 ppmw.

The EPA universal treatment standard (see 40 CFR 268.48) will be met for wastes treated on-site. Waste streams that carry more than one characteristic or listed EPA Hazardous Waste Number will be treated to the most stringent treatment requirements for each hazardous waste constituent, including underlying hazardous constituents. When wastes with different treatment standards are combined solely for the purpose of treatment, the most stringent treatment specified will be met for each hazardous constituent in the combined waste.

After stabilization, wastes will be retested prior to placement in the landfill to determine whether they meet LDR requirements. If LDR requirements are not met, the waste will be retreated. After testing, stabilized waste will be placed in roll-off containers and placed on the roll-off pad until cured.

4.5.5.5 Waste Analysis Requirements Specific to the Landfill.

The stabilized waste will be retested prior to placement in the landfill to determine whether it meets LDR standards as set forth in 40 CFR 268, Subpart D. 40 CFR 268.40 states that a waste identified in the table "Treatment Standards for Hazardous Wastes" may be land disposed only if it meets the requirements found in the table. For each waste, the table identifies one of three types of treatment standard requirements:

- All hazardous constituents in the waste or in the treatment residue must be at or below the values found in the table for that waste ("total waste standards"); or
- The hazardous constituents in the extract of the waste or in the extract of the treatment residue must be at or below the values found in the table ("waste extract standards"); or
- The waste must be treated using the technology specified in the table ("technology standard") which are described in detail in 40 CFR 268.42, Table 4-1.

In cases where treatment standards are based on concentrations in the waste extract, the facility will use toxicity characteristic leaching procedures (TCLP, see 40 CFR 261, Appendix II) to determine if the waste meets the standards. The sampling and analysis protocols outlined in Sections 4.5 through 4.7 of this permit application will apply to all wastes to ensure compliance with LDR standards. Parameters for analysis will be determined by the characterization of the waste before analysis. All information obtained to document LDR compliance will be maintained in the facility Operating Record.

In addition to other required procedures and analyses, on an annual basis the facility will randomly sample and analyze a minimum of 10 percent of incoming waste streams that are to be directly landfilled to verify conformance with the LDR requirements. These additional samples will be analyzed for the specific regulated hazardous constituents contained in the hazardous waste stream. The data generated from these samples, in conjunction with the generator-supplied data, will be used to verify conformance with the LDR requirements.

Facility personnel, either at the facility or at the point of generation, will collect these samples. The samples will be split into a minimum of two aliquots. One will be retained and the other analyzed for conformance with the applicable LDR requirements. If the results of the analysis indicate that the waste does not conform with the applicable LDR requirements, the retained sample will be analyzed, generator-supplied information re-evaluated, and an evaluation made of the potential for the waste's variability based on the process that generates the waste stream.

The retained sample will subsequently be analyzed, the generator-supplied information re-evaluated, and an evaluation made of the potential for the waste's variability based on the process that generated the waste stream. These factors, along with an evaluation of the QA/QC data from the laboratory (both the generator's and the facility's), will be used to determine if the subject waste stream is eligible for continued disposal at the facility or if additional treatment is necessary prior to disposal. Disposal of the waste stream will be discontinued until the discrepancy regarding compliance with the LDR requirements has been resolved and the generator has demonstrated that its on-going program for compliance with LDR requirements is adequate.

Procedures to meet LDR standards for specific wastes include the following:

This submittal supersedes all previous information.

- **lab packs.** - Prior to disposal, hazardous wastes contained in lab packs will be treated to meet applicable treatment standards for each waste type identified. Procedures to determine applicable treatment requirements, and the subsequent treatment of lab wastes to applicable standards, will be consistent with procedures implemented for other waste types. Lab packs will also be analyzed to ensure that they do not contain hazardous wastes listed in 40 CFR 264, Appendix IV. In cases where hazardous lab pack wastes are combined with non-hazardous lab pack wastes prior to or during treatment, the entire mixture will be treated to meet the most stringent treatment standard for each hazardous constituent before being disposed of in the landfill;
- **ignitable or reactive wastes.** - Ignitable or reactive hazardous waste will be tested to ensure that it will not be placed in the landfill until the waste has been rendered non-ignitable or non-reactive by treatment;
- **characteristic wastes.** - Generator process knowledge and/or analytical data will be used to determine whether characteristic wastes meet the applicable treatment standards or to demonstrate that the waste has been treated by the appropriate specified treatment technology. In accordance with 40 CFR 268.41, where treatment standards are based on concentrations in the waste extract, generators shipping waste to the facility will determine if their wastes meet treatment standards;
- **bulk liquids.** All hazardous wastes will be tested for the presence of free liquids (paint filter test) to ensure that no free liquids are placed in the landfill. No containers holding free liquids will be placed in the landfill unless the container is in a lab pack, or the container was designed to hold liquid for use other than storage, such as a battery or capacitor, or the container is very small, such as an ampule;
- **Reactive wastes.** - Reactive wastes will not be placed in the landfill until they have been rendered nonreactive by treatment;
- **Incompatible wastes.** - Incompatible wastes will be sufficiently separated when placed in the landfill to ensure that they do not combine to cause adverse reactions. These wastes will be managed to ensure that they meet the requirements specified in 40 CFR 264.313 and 274.17. This management includes placing incompatible wastes in non-adjacent landfill grids and treatment of potentially noncompatible wastes prior to landfilling;
- **hazardous debris.** - Hazardous debris will not be treated at the facility. Therefore, the facility will only accept hazardous debris that has been treated and certified to meet the LDR treatment standards specified in 40 CFR 268.45(b) or (c) by the generator prior to shipment to the facility; and
- **listed waste.** - Listed waste will not be placed in the landfill until it has been shown to meet the requirements of 40 CFR 268.40.

4.5.6 Waste Analysis Requirements for Waste Generated On-Site

4.5.6.1 Overview of Waste Generated on-Site

The facility is expected to generate some waste on-site through waste treatment, day-to-day facility operations, leachate, or releases of hazardous waste to the environment (see Table 4-4).

| Table 4-4 Potential On-Site Waste Generation Areas/Activities | | |
|--|--|-------------|
| Area | Method of Generation | Waste Form* |
| Landfill | LEACHATE COLLECTED IN THE LEACHATE COLLECTION SYSTEM | L, SL |
| Evaporation Pond | Leachate collected in the leachate collection system | L, SL |
| Evaporation Pond | Sludges generated as a result of the cleaning and repair of the liner system | L, SL |
| Truck Wash | Decontamination rinse water | L, SL |
| Stormwater Retention Basin | Contaminated rain water | L, SL |
| Liquid Waste Storage Area | Decontamination rinse water | L |
| Stabilization Area | Decontamination rinse water | L, SL |
| Operations | Personal Protective Equipment (PPE) contaminated during routine and non-routine operations | S |
| Site Operations | Spill residues primarily from waste handling operations. Sampling activities. | L, SL, S |
| *L-liquid, SL-sludge, S-solid | | |

Waste generated on-site will be assumed to be RCRA-regulated until process knowledge and/or sampling and analysis can be used to determine the actual nature of the waste. Sampling and analysis will be accomplished in accordance with the requirements this waste analysis plan.

The facility will select waste analysis parameters to confirm the identity of waste streams generated at the facility. The selection of waste analysis parameters will typically be based on knowledge of the physical and chemical processes that produced the waste stream. If there is doubt as to the specific source, the facility will use the waste tracking system to identify all possible sources and to develop a list of specific parameters for laboratory analysis. Acceptable knowledge and analytical testing as necessary will be used to ensure compliance with LDR requirements and provide waste compatibility and other information to determine appropriate waste management activities.

After analysis, the waste will be returned to the unit from which it came or sent to another appropriate unit. The facility will ensure that all on-site generated waste sent to the landfill meets all LDR treatment standards.

Treated waste is considered newly generated waste because hazardous waste treatment at the facility will result in a change in the physical and/or chemical character or composition of the waste. Treated waste will be recharacterized, using waste analysis or acceptable knowledge as appropriate and it will be tested to ensure that LDR treatment standards are met before disposal in the landfill. Waste analysis requirements are discussed in Section 4.5.5.5.

Day-to-day operations at the facility will produce some waste on-site from day-to-day operations (e.g., paint and paint strippers, laboratory chemicals and equipment, vehicle maintenance). This waste will be characterized using acceptable knowledge, or waste analysis if the source cannot be definitively determined. If it is hazardous waste, it may be sent to the evaporation pond or stabilization tanks for treatment as appropriate, and disposed in the landfill. If it is not hazardous waste, it will be sent off-site for disposal.

This submittal supersedes all previous information.

A **release** is defined as "any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous waste (including hazardous constituents) into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents)". Management protocols for releases generated on-site are discussed below:

- **spills and leaks.** - Spills and leaks may occur during ordinary facility operations (e.g., release of fluid from a leaking drum to the cell trench and sump in the drum handling unit, a spill at any loading or unloading area, or overtopping at the evaporation pond).

Provisions for the detection, characterization, and management of spills and leaks are discussed in Vol. I, Sections 2.0, 5.4.2, 6.3.5.2, and 6.3.7 of this application. If spills and/or leaks are identified during inspections, the materials will typically be removed from the system, characterized, and managed appropriately. If necessary, the contaminated area will be sampled to ensure that all contaminated materials are removed.

- **decontamination rinse water.** - Personal protection equipment (PPE), as well as other equipment (e.g., trucks, sampling equipment, industrial absorbents used during spill or leak clean-up, emergency equipment), may become contaminated during the course of site operations such as the handling of wastes, the transfer of waste to another unit, or emergency operations. The water used to rinse this equipment will be analyzed to determine if it is a hazardous waste and if the equipment has been adequately decontaminated. Provisions for the detection, characterization, and management of decontamination rinse water are discussed in Vol. I, Sections 5.2.5 and 5.2.10, and Vol III, Section 9.1.2, of this application. Rinse water will be removed to the truck wash area. Rinse water and residues will be chemically analyzed and handled in an appropriate manner;
- **run-on/run-off.** - Facility stormwater control is provided by a network of surface run-on and run-off diversion channels and collection and detention basins (see Vol III, Drawing 25 of this application). To control the run-off from the facility, several collection channels and culverts will be built to divert discharges from storm events to a stormwater retention basin (see Section 2.7 of the Operations and Maintenance Plan, submitted separately). Procedures for management of run-on/run-off are discussed in Volume I, Sections 2.5.1.6, 2.6.1.4, and 5.4.2. Contaminated water will be characterized, treated in the evaporation pond and/or stabilization bins, and disposed of in the landfill in compliance with appropriate regulations. Sampling will be conducted upstream of the stormwater retention basin to determine the point where hazardous constituents were introduced into the stormwater. Appropriate corrective actions will be implemented to prevent further contamination during future stormwater events.
- **investigation derived wastes.** - IDW may include drill muds, cuttings, and well installation purge waters associated with the investigation of spills and releases; purge waters, soils and other materials from regularly scheduled sampling activities associated with waste management units and the vadose zone monitoring system; and contaminated PPE. All IDW will be assumed to be hazardous waste until site or material specific information becomes available. IDW will be stored near the point of generation in appropriately labeled containers for no greater than 90 days and will be appropriately analyzed to determine whether it is either a characteristic or listed hazardous waste. Analysis of materials associated with the IDW may be used also to characterize the IDW. An example of associated analysis for purge waters from the vadose zone monitoring system would be the final analytical results for the samples collected to satisfy regularly scheduled monitoring requirements.

- **contaminated soil.** - Soil means unconsolidated earthen material consisting of clay, silt, sand or gravel size particles as classified by the US Natural Resource Conservation Service, or a mixture of such materials with liquids, sludges or solids which is inseparable by simple mechanical removal processes and is made primarily of soil by volume based on visual inspection. Contaminated soil is soil impacted by a hazardous constituent release. Soil may become impacted by a release either at the surface or subsurface. If the contaminated soil exists at the surface, the appropriate response is described in the Contingency Plan in the Permit Application. If the contaminated soil exists subsurface, the appropriate response will be developed by NMED as permit conditions. Contaminated soils that are managed as hazardous wastes will be analyzed and managed in accordance with the alternative LDR treatment standards for contaminated soil contained in 40 CFR 268.49.
- **air emissions.** - Procedures for detection of hazardous gases and volatile organic at the landfill are discussed in Vol. I, Sections 2.5.1.8 and 6.2.2 of this application. Procedures to minimize wind dispersal of dust throughout the facility are identified in Section 5.4.8. This section also discusses pollution control systems in the stabilization unit to minimize the release of particulate to the atmosphere. The facility will apply to NMED for a new source air emissions permit before start-up of operations.
- **Leachate.** - Leachate collected from the storage units or the stabilization building is treated as a spill or release. Leachates, as used here refer to landfill and evaporation pond fluids. The definition of leachate is in 40 CFR 260.10, collected from the Leachate Collection and Removal System, the Leak Detection system, or the Vadose Zone Monitoring System sumps.

Leak detection and removal/vadose zone monitoring for evaporation pond leachate is discussed in Vol. 1, Sections 2.6.1.2 and 2.6.4.3 of this application. Procedures for the removal of evaporation pond leachate are discussed in Section 2.5.4.3. Leachate will be removed by vacuum truck on a regular basis, combined with leachate from the landfill and treated in the stabilization tanks to remove free liquids and to ensure that LDR treatment standards are met.

Leak detection and removal/vadose zone monitoring for landfill leachate is discussed in Vol. 1, Sections 2.5.1.3, 2.5.1.4, and 2.5.1.5. Leachate generated from the landfill will be pumped out of the unit sumps into the temporary leachate storage tank. It will then be tested to assure compliance with LDR requirements defined in 40 CFR 268 for F039 listed wastes.

Leachate will be transferred daily from both the landfill and the surface impoundment sumps and combined in temporary storage tanks for management purposes. The combined leachate will be analyzed monthly for the F039 underlying hazardous constituents to determine whether it meets LDR treatment standards and can undergo evaporation in the surface impoundment prior to stabilization.

Leachate may also be collected from the Vadose Zone Monitoring Wells. These wells will be monitored monthly; if any fluids are present they will be sampled and analyzed for all F039 constituents. Biennially, the wells will be analyzed for all the Ground Waste Monitoring List identified in 40 CFR 264, Appendix IX.

Leachate sampling and analysis will follow the sampling and analytical procedures and recordkeeping requirements contained in the Vadose Zone Monitoring System Work Plan and this section.

This submittal supersedes all previous information.

4.6 SAMPLING PLAN

The Sampling Plan is based upon the guidance provided in Chapter 9 of SW-846. The overall plan takes into account the regulatory and scientific objectives identified in this waste analysis plan. Based upon these objectives, the sampling strategy ensures that the data collected will minimize the potential for accepting waste that is unsuitable for management at the facility. Modifications to the Sampling Plan to include detailed sampling protocols specific to the site activities will likely be required to reflect the sampling to be performed during operation of the facility.

The sampling program will take into account the different types of waste constituents and the various waste matrices that may be encountered. By taking these variables into account, the facility will identify the protocols by which sample locations will be selected and the methods most appropriate for collecting samples from the different waste streams.

The latest revision of SW-846 methods (ASTM) or other approved methods will be used, and site procedures will be revised as necessary to incorporate new requirements.

General sampling methods and collection techniques are discussed in section 4.6.1. Section 4.6.2 contains specific sampling procedures. Section 4.6.3 and 4.6.4 provide information on sample location and sample type, respectively. Section 4.6.5 discusses sampling quality assurance/quality control (QA/QC) procedures. Sections 4.6.6 and 4.6.7 present requirements regarding sample preservation, volume and holding times and for equipment decontamination, respectively.

4.6.1 Sampling Methods

Sampling methods will follow Appendix I of 40 CFR, Part 261 unless a more appropriate method is identified. Table 4-5, *Sampling Methods*, lists general waste matrices and appropriate sampling methods that will be used at the facility. Matrices that will be sampled include containerized liquid, viscous liquids/sludges, crushed/powdered material, rock/rock-like material, soil, and fly-ash-like material. The methods and equipment used for sampling wastes will vary with the form and consistency of the material to be sampled. Also, these matrices will be sampled using a variety of sampling tools (see Table 4-5), including the Coli-wasa (containerized liquid/viscous liquid), dipper (containerized liquid/viscous liquid), thief (containerized liquid/viscous liquid), weighted bottle (containerized liquid), scoop (sludge, powdered material, rock/soil material, fly-ash material), shovel (powdered material, rock/soil material), auger (soil/fly-ash-like material) and tube sampler (fly-ash like material and liquids). The facility will select the appropriate sampling method from Table 4-5 based upon the sample matrices, chemical constituents within the sample, and sampling conditions. If a sampling method not presented on Table 4-5 would be more appropriate for the specific matrices to be sampled given site-specific conditions or if the procedures presented below must be modified, an alternative method will be used. If an alternative method is used, the sampling method will be well documented, justified, placed in the Operating Record, and approved by NMED prior to implementation.

| TABLE 4-5 SAMPLING METHODS | | |
|------------------------------------|-----------------|---|
| Waste Matrix | Sampling Method | Sampling Equipment |
| Extremely viscous liquid or sludge | ASTM D140-70 | Coli-wasa, dipper, scoop, thief |
| Crushed or powdered material | ASTM D346-75 | Scoop, shovel, tube sampler |
| Soil or rock-like material | ASTM D420-69 | Scoop, shovel, auger |
| Soil-like material | ASTM D1452-65 | Scoop, shovel, tube sampler |
| Fly ash-like material | ASTM D2234-76 | Tube sampler, trier, auger, scoop, shovel |

This submittal supersedes all previous information.

| | | |
|-----------------------|--------|--|
| Containerized liquids | SW-846 | Coliwasa, tube sampler, weighted bottle, dipper, thief |
|-----------------------|--------|--|

Sampling equipment will be compatible with waste, and are generally made of glass, steel, or Teflon. Stainless steel is more suitable for sampling solids and soils, while glass and Teflon are more suitable for liquids.

4.6.1.1 Sampling with a Coliwasa

The Coliwasa is used to collect extremely viscous liquid or sludge samples, as well as containerized liquid samples. The Coliwasa provides a representative sample of layered and homogenous liquid materials, and the sampler consists of glass, plastic, or metal tube with an end closure that can be opened and closed while the tube is submerged in the sample material. The following general process will be used to sample with the Coliwasa:

1. Clean/Decontaminate Coliwasa
2. Adjust sampler's mechanisms to ensure that the stopper provides tight closure. Open sampler.
3. Lower sampler into waste so that liquid level inside and outside the sampler remain the same.
4. When sampler hits the base of the material to be sampled, the sample tube is pushed down to close and sampler and lock the stopper.
5. Withdraw the Coliwasa from the waste and place sample into the appropriate sample container.

Note that only plastic Coliwasas constructed of Teflon should be used to sample organics. Glass coliwesas are not used to sample hydrofluoric acid liquids, and if solids are present at the base of the sampled matrix, an alternative sample device will be used to obtain a representative sample of the solid phase.

4.6.1.2 Sampling with a Dipper

Dippers are used to collect liquid samples and free-flowing slurries. The dipper consists of a glass, plastic, or stainless steel beaker or similar container typically clamped, as necessary, to the end of a pole which serves as a handle. The following process will be used to sample with the dipper:

1. Clean/Decontaminate the dipper
2. Insert dipper into the liquid to be sampled, preferably through the entire sample container, if possible.
3. Remove dipper and place sample into the appropriate sample container.

4.6.1.3 Sampling with a Thief Sampler

This submittal supersedes all previous information.

A thief sampler may be used to collect viscous liquid/sludge samples or to sample small dry granules. Thiefs typically consist of two slotted concentric tubes of stainless steel; the outer tube has a conical tip allowing the sampler to penetrate the sample material, while the inner tube is rotated to open/close the sampler. The following general process will be used to sample with a Thief sampler:

1. Clean/Decontaminate the sampler
2. Insert closed thief into material to be sampled. Rotate the inner tube to open the thief; collect sample.
3. Withdraw the thief, and remove inner tube, transferring sample to sampler container.

4.6.1.4 Sampling with a Weighted Bottle

The weighted bottle is used to sample liquids and free-flowing slurries that are relatively homogeneous. The sampler consists of a glass or plastic bottle with a sinker, stopper, and line that is used to lower/raise the bottle within the sampler matrix. The following general process will be used to sample with a weighted bottle:

1. Clean/Decontaminate the sampler
2. Assemble weighted bottle sampler
3. Lower the sampler to the desired depth and remove stopper
4. Allow bottle to fill
5. Raise sampler and cap (sampler can serve as the sample container).

Nonfluorocarbon plastic bottles should not be used to sample organics. Before sampling, ensure that sample line, sinker, and other equipment are compatible with waste materials (i.e. waste will not corrode sampling equipment).

4.6.1.5 Sampling with a Scoop/Shovel

Scoops/shovels are used to sample rock/soil-like, solid or powdered matrices. The following general process will be used to sample with scoops/shovels:

1. Clean/decontaminate the sampler
2. Obtain a full cross section of the waste material using the scoop or shovel that is large enough to contain the waste collected in one cross sectional sweep.

4.6.1.6 Sampling with an Auger

Augers are used to sample relatively hard packed solid waste material or soils. Augers are spiral drilling blades attached to metal shafts which are "turned" downward through sample material, allowing sample to exit the sample matrix by moving upward along the auger spirals. The following general process will be used to sample with an auger:

1. Clean/Decontaminate the sampler
2. Drill downward, using the auger, into the waste material, capturing waste moving upward along the auger blades in the appropriate sample container.

This submittal supersedes all previous information.

4.6.1.7 Sampling with a Tube Sampler

Tube samplers are used to collect soil/solid samples, and are generally glass or steel tubing that can be inserted into relatively compact matrix. (Modified tube samplers, however, can be used for liquid sampling.) Following insertion of the tube, and tube is extracted with the sample contained in the inserted tube. The following general process will be used to sample with the tube sampler:

1. Clean/Decontaminate the sampler
2. Lower/insert the tube into the waste to the desired depth.
3. When the desired depth is reached, slowly withdraw the tube, taking care to retain as much sample with the tube as possible.
4. Extract sample into the appropriate sample container.

4.6.2. Sample Collection Procedures

This section discusses the general sampling procedures for each type of sample to be collected at the facility, as presented in Table 4-6. It is recognized that the specific sampling that will take place at the facility may differ from general procedures included herein, and approval by NMED is required before revisions are implemented. Additionally, selection of sample locations (Section 4.6.2.8) and sample types (Section 4.6.2.9) for on-site samples to be collected are addressed.

| TABLE 4-6 ON-SITE SAMPLE COLLECTION ACTIVITIES | | | |
|---|---|--|--|
| Sample Type | Matrix | Collection frequency | Comments |
| Fingerprint Sample | All incoming liquid, sludge and solid; debris waste will not be fingerprinted | One/shipment for bulk shipments 1/10 drums for drummed waste | Table 4-2 defines base fingerprint analysis required |
| Annual Sample | All incoming liquid, sludge and solid; debris waste will not be fingerprinted | One sample annually for each waste that underwent representative sampling prior to initial shipment | Table 4-1 defines base representative analysis required. Sampling will be performed at the generator site. |
| Spills/releases | Spilled waste and contaminated material (sludge, liquid, soil) | Each release | For Hazardous Waste determination |
| Evaporation pond output | Waste sludge and liquid as it is removed from pond | Each waste transferal | To determine LDR status |
| Stabilization Tank Input | Evaporation pond and offsite sludge and liquid leachate. | Each input | For bench scale testing to determine stabilization |
| Stabilization Tank Output | All tank output (sludge, liquid and solidified solid) | Each output | To determine LDR status |
| Landfill input | All incoming sludge and solidified solid waste to landfill except debris | Each input to landfill from Stabilization Tank and Evaporation Pond Random sampling of waste directly landfilled. | To determine LDR status. May use results from Stabilization Tank Output/ Evaporation pond analysis. |

This submittal supersedes all previous information.

| | | | |
|---------------|---|---|--|
| On-Site Waste | 1 Treated waste 2 Day-to-day (Truck Wash, etc) operations 3 Releases 4 Run-on/run-off 5 Investigation-derived waste 6 soil 7 air 8 Leachate/sludges from Evaporation Pond and Landfill | 1,2 When acceptable knowledge is not available 3,4 See Vol II Appendices 5 Each container 6 Contingency Plan 7 See Vol II Appendices 8 Placed in temporary leachate storing tanks; sampled monthly | To determine hazardous/LDR status See Table 4-5 for specific waste matrices generated by On-Site Activities |
|---------------|---|---|--|

4.6.2.1 Fingerprint Sampling

Fingerprint sampling will be conducted for all in-coming waste, except for debris waste (each container of debris waste will be visually inspected, however, as will each drum and roll-off, regardless of waste matrix). Matrices that will undergo fingerprint sampling include sludges, solids, and liquids, arriving in containers such as tanker trucks, roll-offs, and drums/containers. Refer to Table 4-6 and Section 4.4.3.1 for sampling frequency and waste analysis.

Tanker trucks delivering bulk liquids will be sampled through an access hatch, with a vertical sample collected using a Coliwasa or other appropriate sampling device (see Section 4.6.1). Trucks delivering bulk solid material (e.g. in roll-offs) will be sampled using solid sampling equipment, such as a scoop (see Section 4.6.1).

A surface sample will be collected from the front 1/3 area of the truck, middle 1/3 are, and rear 1/3 area of the bulk; samples will then be composited (see Section 4.6.4). Vertical waste composition will be determined, as possible, by collecting an additional sample from more than approximately 2 feet below the surface of the waste at each of the three sample locations using the appropriate sample collection tool (e.g. auger); these three samples will be composited with the first three samples. All loads will be visually inspected during unloading. If the load exhibits different color, texture, or wetness, samples from these areas will also be collected and included in the composite sample.

Sample methodology for drummed waste will depend on the sample matrix, but will likely include liquid sample collection using a Coliwasa and solid sampling using a scoop or auger. A single sample, collected through as much depth of the drummed waste as possible, will be collected. The location of samples collected is discussed in Section 4.6.3.

The facility will detail the sampling method used for fingerprint waste sample collection, including but not limited to sample collection technique, sample type, sample representativeness, sample volume, sample containers, sample preservation, chain-of-custody, etc., and will place this information in the Operating Record.

4.6.2.2 Annual Sampling

Wastes that underwent representative sampling prior to initial waste shipment will undergo annual sampling to confirm waste composition. The facility will assess the representative sampling procedure prior to initial waste acceptance, and this same representative sampling procedure will be used for annual sampling. Annual sampling will follow the representative sampling process performed prior to initial waste shipment; if the

process is modified, the facility will assess the sampling process to ensure collection of a representative sample, and place this assessment in the Operating Record.

4.6.2.3 Spills/Releases

See Section 4.6.2.7

4.6.2.4 Evaporation Pond Output

Evaporation Pond output will consist of liquids and sludges/solids of varying viscosity/degree of solidification. This waste is then transferred, as appropriate, to stabilization tanks, and/or the landfill. Each waste transfer will be sampled with a single grab sample selected from the waste transferred at the midpoint/middle of sample transfer, if the waste is homogenous. Alternatively, if the waste is heterogeneous, a composite sample may be collected in the transfer vessel using a tube sampler or other appropriate sample devise, with the extracted sample then composited. If modification to these sampling methods to meet waste/site-specific requirements occurs, all information pertaining to the modified method will be detailed in the Operating Record. Samples will be analyzed to assess continued waste LDR compliance. The facility will detail the sampling method used for each output waste, including but not limited to sample collection technique, sample type, sample representativeness, sample volume, sample containers, sample preservation, chain of custody, etc., and will place this information in the Operating Record. Note that leachate and waste sludge may be generated within/below the Evaporation Pond, however, these are considered "on-site" generated waste and are discussed in Section 4.6.2.7.

4.6.2.5 Stabilization Tank Input/Output

Stabilization Tank input wastes include liquid (e.g. leachate) and sludges. Output includes sludges, liquid, and solidified sludge. Input samples are to be sampled primarily for bench-scale testing to assess solidification techniques. Sampling methodology will be dependent upon the matrix sampled, but must include at least one grab sample from the input waste container/stream of sufficient volume to perform bench-scale assessments (assuming a homogenous waste stream). A composite sample will be collected if the stream is heterogeneous in nature. Output waste must be sampled to ensure continued compliance with LDR requirements; see Section 4.6.2.4 for output sampling methodologies. The facility will detail the sampling method used for each input/output waste, including but not limited to sample collection technique, sample type, sample representativeness, sample volume, sample containers, sample preservation, chain of custody, etc., and will place this information in the Operating Record.

4.6.2.6 Landfill Input

All incoming waste to the landfill will be sampled to ensure continued compliance with LDR requirements. For waste originating from the stabilization tank or evaporation pond, output sampling will fulfill this requirement. For wastes directly placed in the Landfill from offsite sources, and on an annual basis, the facility will randomly sample and analyze a minimum of 10 percent of incoming waste streams that are to be directly landfilled to verify conformance with the LDR requirements. These additional samples will be analyzed for the specific regulated hazardous constituents contained in the hazardous waste stream. The data generated from these samples, in conjunction with the generator-supplied data, will be used to verify conformance with the LDR requirements. Sampling procedures will follow those presented in Sections 4.6.2.1 and 4.6.2.4, as applicable.

4.6.2.7 On-Site Generated Waste

Several wastes may be generated on-site that require sampling and analysis (see Table 4-4). Specifically, treated waste, day-to-day generated waste (e.g. truck wash, liquid waste storage area, and stabilization area decontamination rinse, personal protective equipment), releases of wastes, run-on/run-off, investigation-derived waste, contaminated soil, air emissions, and leachate/sludges from the evaporation pond/landfill are considered on-site generated waste.

Leachate/sludges from the evaporation pond and landfill will be placed in temporary storage tanks and/or the stabilization tank. Sampling of leachate/sludges must occur prior to emplacement in the stabilization tanks and/or evaporation pond, and will entail either sampling required of input to these units, or collection of a representative sample from the temporary holding tank using the appropriate sampling devise (e.g. Coli-wasa, weighted sampling bottle). Also see Sections 4.6.2.5 and 4.6.2.6.

4.6.3 Selection of Sample Locations

The facility will collect samples from containers and roll-off boxes using either random (i.e., probability) or biased (i.e., authoritative) sampling methods. Random sampling methods will be used to select drummed containers for fingerprint analysis. All other on-site sampling, except for annual sampling of waste directly landfilled (i.e. 10 percent of the waste) requires sampling of each load, bulk container, or waste transfer, and random selection of waste containers to be sampled is therefore not applicable. However, the facility will collect random samples from within the waste to be sampled for non-fingerprint or annual analysis (e.g. leachate, landfill input) if the wastes are expected to be fairly homogeneous waste streams. A biased sampling method will be used to select roll-off/tanker waste sample locations. (Biased samples will be collected if the wastes are expected to be or are found to be heterogeneous.) For some waste streams, the facility may use both sampling techniques, as determined appropriate by the facility and justified in the Operating Record.

With random sampling, every unit in a population (e.g., every drum from a given waste stream in a shipment) has a theoretically equal chance of being selected for sampling. Consequently, data generated by these samples are unbiased estimators of the range of concentrations in a population. If a sufficient number of samples are taken, they would be representative of the average concentrations within the entire population. For example, in the case of drums, those drums to be fingerprint sampled will be numbered, and numbers will be randomly drawn to determine those containers that will be sampled.

With biased sampling, a preference is given to selecting only certain units in a population. This technique requires the sampler to use discretion and to have knowledge of the waste. The sampler selects the sample locations from areas where contamination is known or suspected (e.g., the sampler could collect a biased sample from areas where there is layering or differences in color or consistency). Also, the facility may use a field screening instrument to bias the sample location, (e.g., a photoionization detector could be used to select locations having higher volatile organic concentrations). EPA-approved ASTM method D140-70 identifies the procedure for estimating the number of containers that should be sampled. Samples collected from roll-offs, for example, may include biased sampling if areas of obvious discoloration, and other pertinent information, are noted.

The facility will document the sampling technique that is used to locate each waste sample collected pursuant to this waste analysis plan. The facility will maintain this information in the facility Operating Record.

4.6.4 Sample Types

Samples of the waste will be collected as either composite or grab samples. It is possible that the facility may modify or augment the procedures discussed below for the collection of composite and grab samples before the facility becomes operational; if so, these revisions will be approved by NMED prior to implementation.

In composite sampling, a number of samples are initially collected from a waste and combined into a single sample which is then analyzed for the constituents of concern. Composite sampling is a valid method for homogeneous samples and tends to minimize the between-sample variation, much like the maximization of the physical size of a sample. This has the effect of reducing the number of samples that must be analyzed to verify the contents of a waste shipment. Composite samples can also be obtained from a waste that has stratified; however, a composite would only be made from samples obtained from the same strata within the waste. Composite samples will be taken with clean sampling equipment and samples will be blended before analysis. Composite sampling will be used to obtain samples of wastewaters. Grab sampling will be used to obtain samples of nonwastewaters and heterogeneous wastes.

4.6.5 Sampling QA/QC

QA sampling procedures will be conducted in accordance with the guidance provided in the EPA document SW-846 and EPA's waste analysis plan guidance manual, *Waste Analysis at Facilities that Generate, Treat, Store and Dispose of Hazardous Waste*. The QA requirements will be applicable to on-site sampling (e.g., leachate collection system samples, truck rinsate, waste removed from the evaporation pond) as well as to the sampling of incoming waste shipments. This program is necessary to ensure that decisions regarding the acceptance and disposition of waste are based on sound, statistically valid, and documented data. Additional QA procedures associated with sampling and analysis determined prior to initiation of on-site sampling will be included in the Operating Record.

The sampling QA program will include the following:

- training requirements for personnel responsible for sample collection;
- chain-of-custody protocols for tracking samples;
- QA review of procedures to ensure proper use of equipment;
- protocols for equipment maintenance;
- identification of required sampling techniques for specific media;
- field sampling QC procedures; and
- documentation of sampling locations.

Deviations from the approved sampling program, sampling methods, or chemical analytical methods will be documented and reviewed by personnel responsible for site QA. NMED will be notified in writing of the QA exceptions within seven days of the occurrence and measures will be taken to correct the problems as soon as practicable.

4.6.5.1 Training Requirements for Personnel Responsible for Sample Collection

All personnel and supervisory staff responsible for collecting waste samples for screening and chemical analysis will be trained in the use of all sampling methods and equipment used at the site.

4.6.5.2 Chain-of-Custody Protocols for Tracking Samples

The integrity of the sampling/analytical scheme will be maintained by following chain-of-custody procedures from the point of sample collection through analytical data reporting to sample disposal. The possession and handling of samples will be traceable from the time of collection through analysis and final disposition.

A sample is considered to be in a person's custody if it is:

- in a person's physical possession;
- in view of the person after taking possession; or
- secured in a container sealed by the responsible person so that it cannot be tampered with during transport to the designated destination or during storage after being secured by that person in an area of restricted access.

The sampler will place a sample label on each sample container. The label will include the following information:

- sample number, a unique identifier that is traceable to the waste stream and shipment;
- name of collector (sampler);
- date and time of collection; and
- place of collection.

Labels will be affixed to sample containers prior to or at the time of sampling and will be filled out at the time of collection.

Sample chain-of-custody seals will be required if the sample is designated to leave the possession of facility personnel for transport to an analytical laboratory. The seal will include the same information as the sample label. The seal will be attached in such a way that it is necessary to break it in order to open the sample container. In addition, chain-of-custody seals will be affixed to sample storage containers in a similar manner in order to prevent tampering prior to shipment from the facility to off-site analytical laboratories. Samples and storage containers which require seals must be sealed prior to leaving the possession of facility personnel.

To establish the documentation necessary to trace sample possession from the time of collection, a chain-of-custody record will be filled out and will accompany every sample. A sample chain-of-custody record is provided in Vol. II of this application.

If the sample is to be shipped off-site for analysis, it will be accompanied by a sample analysis request sheet. The sample analysis request sheet will include the information necessary to identify the sample and the analyses requested by the facility. Samples shipped off-site for analysis will be packaged and shipped in accordance with DOT transportation requirements.

Laboratory samples will be maintained in a secure area and retained until holding times expire, as listed in SW-846, or three months, whichever comes earlier. After the holding time or three month holding period has expired, samples will be disposed at the facility with compatible waste batches. Records of the date the samples are removed from storage and the date and method of disposal will be maintained at the facility until completion of post-closure care. In cases where samples are not analyzed within their holding times, the facility will resample.

4.6.5.3 QA Review of Procedures to Ensure Proper Use of Equipment

Standard operating procedures will be developed for the use, decontamination, and storage of sampling equipment used to characterize waste shipped to the facility. The standard operating procedures will include the sampling equipment to be used, instructions for use, and the applications for use of the equipment for collection of samples from specific media and types of shipping containers. The procedures and QA standards for waste sample collection will be included in the standard operating procedures.

4.6.5.4 Protocols for Equipment Maintenance

The protocols for equipment maintenance will be included in the standard operating procedures. Protocols will be developed, as described in the preceding paragraph, for use, decontamination, and storage of equipment. Protocols for equipment maintenance will be included in the standard operating procedures. (See Section 4.6.7 for general decontamination requirements).

4.6.5.5 Identification of Required Sampling Techniques For Specific Media

The sampling methods and equipment used for collecting samples from specific media will be selected in accordance with the guidelines included in 40 CFR, Part 261, Appendix I, and in the EPA guidance manual, *Waste Analysis at Facilities That Generate, Treat, Store, and Dispose of Hazardous Waste*, Chapter 2. Alternative sampling methods may be used with prior approval of NMED.

4.6.5.6 Field Sampling QC Procedures

Blank and duplicate samples will be obtained during waste characterization sampling to confirm that sample collection and handling procedures meet the QA/QC standards outlined in the standard operating procedures and data quality objectives included in the facility sampling manual. Duplicate samples will be collected at a minimum frequency of 10 percent (one for every 10 samples). Field blanks and equipment blanks will be collected at a minimum frequency of 5 percent (one for every 20 samples). Trip blanks will be included with all sample kits where samples are sent to off-site laboratories for chemical analysis. The field QA samples are described below:

- **field blanks.** - Field blanks are prepared in the field by filling a clean container with pure de-ionized water and appropriate preservative (if required for a specific activity). Contaminants found may indicate airborne contamination, contaminated equipment, or cross-contamination during sampling. A minimum of one field blank will be collected for every 20 waste samples collected;
- **trip blanks.** - Trip blanks are sample containers that are prepared with an inert material such as de-ionized water and carried into and out of the field, but not opened at any time during the sampling event. Contaminants detected in the trip blank may indicate that the source where the sample was prepared or the container that transported the trip blank was contaminated. A trip blank will accompany all sample shipping containers sent from and to off-site laboratories;
- **equipment blanks.** - Equipment blanks are prepared in the field prior to sampling by running de-ionized water over sampling equipment and placing it into a clean sample container. Contamination in this type of sample will indicate that the sampling equipment is contaminated. A minimum of one equipment blank will be collected for every 20 waste samples collected; and

- **field duplicates.** - Field duplicates are independent samples that are taken from the same location at the same time and are used to measure the effectiveness of obtaining representative samples. A minimum of one field duplicate will be collected for every 10 waste samples collected.

4.6.5.7 Documentation of Sampling Activities

Sampling activities, including observations and field procedures, will be recorded on appropriate forms and kept on file at the facility. Copies of the completed forms will be maintained in a bound and sequentially numbered file. The record of waste stream sampling activities will include:

- the date;
- the time of arrival and departure;
- weather conditions (including estimated temperature and wind direction);
- the name of the sample collector;
- daily activities and times sampling was conducted;
- observations;
- a record of samples collected, with sample designations and locations specified;
- field monitoring data, including health and safety monitoring;
- a list of equipment used and calibration records, if appropriate;
- a list of additional data sheets completed; and
- the signature of personnel completing the field record.

Each sample collected during waste stream sampling activities will be identified by a unique sample designation. The sample designation will be included on the sample label. QA samples will be designated with a "Q" (QA/QC samples) at the end of the sample designation, followed by one of the following to indicate the type of QA sample:

- D. - "D" will be used for a duplicate sample;
- E. - "E" will be used for equipment rinsate blanks;
- F. - "F" will be used for field blank samples; or
- TB. - "TB" will be used for field trip blanks.

This coding will be used to assure that duplicates and blanks are submitted "blind" to the laboratory, but can still be easily tracked by the facility for QA purposes.

4.6.6 Sample Preservation, Volumes, and Holding

Table 4-7 presents general preservation, container, and holding time information for samples collected. SW-846 guidelines have been used to determine these general requirements, although these may be modified or augmented to account for waste-specific requirements, waste-container compatibility considerations, or additional waste parameters for analysis. Specific sample volumes and containers appropriate for the sampling event will be determined by the facility. Prior to any sampling event, sample container labels will be prepared and affixed to sample containers, and all sample containers will be certified clean by the supplying laboratory. Sample labels will identify, at a minimum, sample number, date, sampler, matrix, analyses to be

performed, and sample preservation. Once collected, samples will be placed immediately into the shipping container (i.e. cooler), and chain-of-custody documentation will be filled out (see section 4.6.5.2).

TABLE 4-7
GENERAL CONTAINER, HOLDING TIME, AND PRESERVATIVE REQUIREMENTS BY SAMPLE MATRIX

| INORGANICS | | | | | | |
|-----------------------------|-------------------|------------------------|----------------|----------------|--|--|
| Sample Matrix | Concentration | Fraction | Volume | Container Type | Preservative | Holding Times |
| Water | Low | Total metals | 1 liter | C, H, or L | Cool to 4C | 6 mos |
| | | Dissolved Metals | 1 liter | C or L | Filter on-site; HNO ₃ to pH<2 | 6 mos |
| | Medium | Total metals | 1 liter | C or L | Cool to 4C | 6 mos |
| | | Dissolved Metals | 1 liter | C or L | Filter on-site; HNO ₃ to pH<2 | 6 mos |
| Soil, Sediment, and Residue | Low/Medium Medium | Total Metals | 6 Oz | F or G | Cool to 4C | 6mos |
| ORGANICS | | | | | | |
| Sample Matrix | Concentration | Fraction | Volume | Container Type | Preservative | Holding Times |
| Water | Low | VOCs | 80 milli liter | B | HCL to pH <2, Cool to 4C | 14 if preserved |
| | | SVOCs | 2 liters | A,K, or H | HCL to pH <2, Cool to 4C | 7 days for extraction; 40 days after extraction to analysis |
| | | Petroleum Hydrocarbons | 2 liters | A, K, or H | HCL to pH <2, Cool to 4C | 7 days for extraction, 40 days after extraction to analysis |
| Soil, Sediment, and Residue | Low/Medium | VOCs | 240 ml | D | Cool to 4C | 14 days |
| | | SVOCs | 3 Oz | F or G | Cool to 4C | 14 days for extraction, 40 days after extraction to analysis |
| | | Petroleum Hydrocarbons | 3 Oz | F or G | Cool to 4C | 15 days for extraction, 40 days after extraction to analysis |

A= 80 oz amber glass bottle with teflon-lined black phenolic cap
 B= 40-ml glass vial with teflon backed silicon septum cap
 C= 1-L high density polyethylene bottle with poly-lined, poly cap
 D= 120-ml glass vial with teflon lined, white poly cap
 E= 16-oz wide-mouthed glass jar with teflon-lined, black ply cap Water
 F= 8 Oz wide mouthed glass jar with teflon-lined black poly cap Water
 G= 4 oz wide-mouth glass jar with teflon-lined, black poly cap Water
 H= 1-Liter amber glass bottle with teflon lined, black poly cap
 K= 4-L amber glass bottle with teflon-lined, black phenolic cap
 L= 500 ml high-density polyethylene bottle with poly-lined, baked ply cap

The above table is general in nature and may be modified or augmented, so long as the requirements are congruent with SW-846 requirements.

4.6.7 Equipment Decontamination

Sampling equipment will be decontaminated prior to use. Decontamination of sampling equipment typically includes initial scrubbing with a biodegradable commercial detergent, followed by a de-ionized water rinse.

This submittal supersedes all previous information.

The decontamination process will include wiping down of sampling equipment to remove surface residue, followed by detergent wash, rinse, a second detergent wash, and second rinse. Modifications to this process may be required to account for site/contaminant conditions, and may take place so long as the decontamination procedure is well documented and appropriate supporting information is placed in the Operating Record.

4.7 ANALYTICAL METHODS

Analytical methods which the facility will use for specific tests are identified in the waste analysis tables (Tables 4-1 through 4-3). All analytical methods used in conjunction with this waste analysis plan must be EPA-approved methods or methods required by hazardous waste regulations. If there is no equivalent EPA-approved method, an ASTM method or other approved method may be used. If the facility or a generator wishes to use alternate test methods, the facility or generator will first demonstrate to the NMED Secretary that the proposed method is equal or superior to the corresponding methods prescribed in 40 CFR 261 or 264, in accordance with 40 CFR 260.21.

An example of a non-EPA method required by hazardous waste regulations are the ASTM tests specified in 40 CFR 264.314(e)(2) to determine the presence of nonbiodegradable sorbents.

Section 4.7.1 identifies the duties of the laboratory manager. Section 4.7.2 identifies the contents of the laboratory QA/QC plan. Requirements for off-site laboratories used by the facility are contained in Section 4.7.3.

4.7.1 Duties of the Laboratory Manager

The on-site laboratory manager will have the following responsibilities to ensure an effective quality assurance program:

- ensuring that laboratory personnel are adequately trained to perform sampling and analytical procedures and in safety procedures;
- ensuring that equipment and instrumentation under his or her control are calibrated and functioning properly;
- coordinating internal and external assurance audits;
- reviewing procedures and QA plans of outside laboratories used. QA/QC practices will be considered during the selection of independent analytical laboratories. QA/QC practices that will be reviewed include written procedures, certification, internal and external audits, personnel training, and chain-of-custody procedures; and
- development, updating, and implementation of the laboratory QA plan.

4.7.2 Facility Laboratory QA/QC Plan

Prior to beginning operations, the facility will develop procedures which will comprise the laboratory QA/QC plan. The facility will develop a QA manual for operation of the on-site laboratory. The manual will be submitted to NMED for review.

The results of chemical analysis of waste samples generated by the on-site laboratory will not be used as part of the waste acceptance evaluation process prior to NMED's review of the QA manual.

The overall QA objective for measurement data is to ensure that data of known and acceptable quality are provided. All measurements will be made to yield accurate and precise results representative of the media and conditions measured. QA objectives for precision, accuracy, and completeness will be established for each measurement variable, where possible, and will be included in the QA manuals of the on-site and off-site laboratories where waste samples will be submitted for chemical analysis. The laboratory procedures, practices, and qualifications will be included in the QA manual for each laboratory.

The laboratory QA/QC plan will be based on guidance provided in EPA's *Requirements for Quality Assurance Project Plans for Environmental Data Operations* (EPA QA/R-5). As such, the plan will address the following key elements in compliance with EPA QA/R-5: project organization; laboratory quality assurance organization; data quality objectives and criteria; employee training and certification requirements; laboratory analytical methods; quality control requirements; laboratory equipment and instrumentation calibration, testing, inspection, and maintenance; QA/QC of suppliers and vendors; data acquisition requirements; data management; data review, validation and verification; and, reconciliation with quality objectives and criteria. These elements and other procedures which will be included in this plan are discussed in the following sections:

- laboratory quality assurance;
- equipment calibration;
- laboratory QA/QC samples;
- laboratory QC;
- analytical procedures; and
- laboratory maintenance.

4.7.2.1 Laboratory Quality Assurance

The facility laboratory and each off-site laboratory will maintain an internal quality assurance program, as documented in its laboratory quality assurance manual. The laboratories will use a combination of blanks, surrogates, duplicates, MS/MSD (matrix spike/matrix spike duplicate) and laboratory control samples, BS/BSD (blank spike/blank spike duplicate), to demonstrate analytical QA/QC. Control limits will be established for individual chemicals or groups of chemicals based on the long-term performance of the test methods. The specific procedures to be completed and the laboratory control limits will be included in the QA manual for each laboratory.

4.7.2.2 Equipment Calibration

The laboratory equipment calibration procedures, calibration frequency, and calibration standards will be in accordance with EPA (or equivalent method) specified test methodology requirements and will be documented in the laboratory's QA manual. All instruments and equipment used by the laboratory will be operated, calibrated, and maintained according to manufacturers' guidelines and recommendations. Operation, calibration, and maintenance will be performed by personnel who have been properly trained in these procedures. A routine schedule and record of instrument calibration and maintenance will be kept on file at the laboratory.

4.7.2.3 Laboratory QA/QC samples

Analytical procedures will be evaluated by analyzing reagent or method blanks, surrogates, MS/MSDs, BS/BSDs, and/or laboratory duplicates, as required or appropriate for each method. The laboratory QA/QC samples and frequency of analysis to be completed will be in accordance with EPA or equivalent method protocols and will be included in the QA manual for each laboratory.

The laboratory QA manuals and procedures will incorporate data quality objectives (DQOs) to verify that waste characterization data obtained by the methods established in this waste analysis plan meet regulatory requirements with regard to regulatory compliance and facility waste management requirements. The following DQOs are established for the sampling and analysis of waste managed by this facility;

- Identify and quantify the hazardous constituents in the waste to ensure compliance with 40 CFR 264 and the requirements of the facility permit, and
- Compare the contaminant concentrations in the waste with the specified characteristics of 40 CFR 261 in order that the waste may be managed in accordance with facility requirements.

To ensure that the laboratory data quality objectives are met, the following analyses will be completed in the laboratory to monitor the analytical process:

- **laboratory duplicate samples.** - Laboratory duplicate samples will be analyzed to monitor for intralaboratory precision of data generated. These samples will be analyzed at a rate of no less than five percent (one for every 20 samples) of the total samples with at least one replicate if fewer than 20 samples are analyzed for any particular parameter;
- **spiked samples (MS/BS).** - Spiked samples will be analyzed to monitor analytical precision. Spiked samples will be tested on no less than a five percent (one for every 20 samples) basis for any particular parameter. At least one spiked sample will be run if fewer than 20 samples are analyzed;
- **control charts.** - Control charts will be utilized to establish laboratory control limits to monitor and review the accuracy of the data generated as a result of spike analyses. Control limits reflect long-term data accuracy trends and will be modified as new data are acquired;
- **method/reagent blanks.** - Method/reagent blanks will be prepared using samples of purified water or reagents which will then subjected to the entire sample analytical procedure to monitor potential contamination of samples due to contamination in the laboratory or laboratory equipment. Method or reagent blanks will be included with each set of samples;
- **laboratory equipment blanks.** - Laboratory equipment blanks will be analyzed to monitor potential contamination of samples due to improper or ineffective cleaning of equipment. These samples will be analyzed at a rate of no less than five percent (one for every 20 samples) of the total samples;
- **quality control samples.** - QC samples will be analyzed to monitor for accuracy of data generated. EPA QC samples or samples purchased from a reputable independent source will be submitted to off-site laboratories as blind samples for chemical analysis of a set of selected analytes approved by NMED at the beginning of the facility operation and also at regular intervals during the facility operating life;

This submittal supersedes all previous information.

- **surrogates.** - Surrogates will be analyzed in accordance with EPA guidelines for organics analysis. Surrogate recovery is a measure of the effectiveness of the analytical process. Surrogates will be tested on no less than a five percent (one for every 20 samples) basis for any analysis of organic compounds;
- **calibration standards and devices.** - Calibration standards and devices will be used in accordance with the manufacturers' recommended guidelines to calibrate laboratory instrumentation; and
- **internal standards** - Internal standards prepared in the laboratory will be referenced against external standards to measure accuracy.

Laboratory QC procedures will be included in the laboratory QA manuals prepared by each laboratory.

4.7.2.4 Laboratory Quality Control

QC objectives for the analytical data are a means of checking and controlling the sources of error in analytical data results. The criteria for data evaluation include assessing the data accuracy, precision, completeness, representativeness, and comparability. The criteria are described below:

- **accuracy.** - Accuracy is a measure of the error between chemical analytical results and the true sample concentrations. Accuracy is a measure of the bias in a system and will be expressed as the percent recovery of spiked samples. Accuracy will be presented as percent recovery and will be calculated as follows:

$$\%R = (S-U) \times 100\%C_{sa}$$

where

%R = percent recovery

S = spike sample analytical result

U = sample analytical result

C_{sa} = known spike concentration

- The data quality objectives (DQOs) for accuracy for each analytical method will be presented in the laboratory QA manual;
- **precision.** - Precision is a measure of data variability. Variability can be attributed to sampling activities and/or chemical analysis. Relative percent difference (RPD) will be used to assess the precision of the sampling and analytical method and will be calculated as follows:

$$RPD = [|C_1 - C_2| / (C_1 + C_2) / 2] \times 100$$

where

RPD - relative percent difference

C₁ = larger of the two concentrations

C₂ = smaller of the two concentrations

- The DQOs for precision for each analytical method will be presented in the laboratory QA manual;

This submittal supersedes all previous information.

- **completeness.** - Completeness will be evaluated to assess whether a sufficient amount of valid data is obtained. Completeness is described as the ratio of acceptable measurements. Completeness will be calculated as follows:

$$C = (\text{Number of samples having acceptable data}) / (\text{total number of samples analyzed}) \times 100\%$$

where

C = completeness

- The DQOs for completeness will be presented in the laboratory QA manual;
- **representativeness.** - Representativeness is a qualitative parameter related to the degree to which the sample data represent the specific characteristics of concern. Procedures in sample collection will be implemented to assure representative samples, such as repeated measurements of the same parameter from the same waste stream in the same shipping container over several distinct sampling events. Any procedures or variations that may affect the collection or analysis of representative samples will be noted and the data qualified as appropriate; and
- **comparability.** - Comparability is a qualitative parameter related to whether similar sample data can be prepared. To assure comparability, analytical results will be reported in appropriate units for comparison with other data (such as past studies or clean-up standards), and the standard collection and analytical procedures included in this waste analysis plan will be implemented. Any procedures or variations that may affect comparability will be noted, and the data will be qualified as appropriate.

4.7.2.5 Analytical Procedures

Specific QA/QC procedures to be used for sampling, chain-of-custody, calibration, analytical methods, reporting, internal QC, audits, and preventative maintenance will be included in the laboratory QA manual.

Laboratory procedures and methods to be used will contain all of the information presented in the EPA document, SW-846, for each method. The format for each method will be similar to that used in SW-846. If there is no appropriate SW-846 method ASTM or other approved methods will be employed. The laboratory procedures and methods also will include the following:

- **scope.** - A description of the scope of applicability of the procedure;
- **principal.** - A brief description of the steps to be taken and/or the theory involved in the laboratory analysis;
- **interference.** - A description of known interfering agents that would cause difficulty in the laboratory analysis;
- **apparatus.** - A listing or description of equipment required to perform the laboratory analysis;
- **reagents.** - A listing of the reagents required, a description of the steps involved in preparing the reagents, and instructions on storage requirements and retention times;
- **procedures (instructions).** - An enumeration of the sequence of activities to be followed. The topics include sample preparation or pretreatment, sample storage requirements, instrument set-up,

standardization or calibration, sample analysis, calculations, and glassware-cleaning procedures. The procedure includes any precautions, explanation, or clarifications needed to properly perform the analysis. These include safety precautions, the frequency of standardization required, the acceptance criteria or procedures for determining the acceptability of standard curves, clarification or special techniques critical to the analysis, and the procedure the analyst uses to determine the reliability of sample results based on the standard curves;

- **quality control requirements.** - A listing of the QC checks to be performed and the acceptance criteria used to evaluate the QC data; and
- **reference.** - A listing of the publications from which the information was derived in preparing the laboratory method. All references pertain to these documents. As a rule, laboratory methods are derived from the following publications:
 - *Standard Methods for the Examination of Water and Wastewater*, American Public Health Association;
 - *Annual Book of Standards*, American Society for Testing and Materials;
 - *Methods for Chemical Analysis of Water and Waste*, US Environmental Protection Agency;
 - *Test Methods for Evaluating Solid Waste*, SW-846, US Environmental Protection Agency;
 - *National Functional Guidelines for Organics Data Review*, and
 - *Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses*.

Editions used will be those currently specified in 40 CFR, as updated.

4.7.2.6 Laboratory Maintenance

The analytical laboratory will have in place a procedure that details the steps to be taken to calibrate and standardize instruments to ensure that analytical data produced are accurate. Records of all calibrations, preventative maintenance, and service calls will be readily available from the laboratory files. Calibration procedures will follow the method procedures outlined in the EPA document, SW-846, or the *Annual Book of ASTM Standards*.

A procurement procedure that identifies methods to be used to document and control the purchase of materials, parts, and services will be implemented by the laboratory and will be presented in the laboratory QA manual. The procedure will include identifying the quality of laboratory chemicals and equipment, management approval of procedure items, inspection of shipments for compliance with requirements, and isolation of nonconforming items to be returned to vendors. The quality of all equipment will conform to the requirements specified in the most current edition of the EPA document, *Handbook of Analytical Quality Control in Water and Wastewater Laboratories*, the Federal Register, or other regulatory agency publications. This procurement procedure will serve to ensure that spare parts routinely required will be readily available.

4.7.3 Requirements for Off-Site Laboratories

The facility will document that the following conditions are met for each off-site laboratory performing waste analyses for the facility:

- the laboratory will not be the same laboratory that was used by the generator;
- the laboratory must be approved by the facility;
- the laboratory must use the analytical methods identified in Section 4.5;
- if there is more than one analytical method for a specific test identified in Section 4.5, the laboratory must follow the guidance in Chapter Two of the current version of EPA document SW-846 to determine the appropriate analytical method; and
- the laboratory must follow the QA/QC requirements described in this waste analysis plan.

4.7.4 Laboratory Requirements for Foreign Generators

The facility will ensure and document that laboratory analysis provided by foreign generators is performed by a laboratory accredited or certified for the appropriate hazardous waste field of testing (FOT) by an authority using the USEPA's National Environmental Laboratory Accreditation Conference standards.

4.8 WASTE TRACKING

To identify and track the waste managed at the facility, a facility-specific number will be assigned to each waste stream and to each shipment within that waste stream. Each waste shipment will be tracked using a unique alphanumeric designation. This designation will identify the generator, a sequential number specific to the shipment, substance and source and the delivery date (or, in the case of site-generated waste, the date the waste entered the system). An example is presented below:

ABC-0001-043099

where

ABC identifies the generator

0001 identifies the waste stream, source, and shipment

043099 is the date the waste was delivered.

The waste numbering system will assist in the tracking of waste as it moves through the facility. The number will be recorded on:

- all incoming paperwork from the generator;
- samples received from the generator;
- samples taken on site; and
- site-generated records.

The date will not be recorded until the waste actually arrives on site. This numbering system will allow the facility to track a specific waste with regard to analyses conducted, necessary treatment, and the final disposition of the waste. In addition, assigning a unique designation to each generator and a unique number

This submittal supersedes all previous information.

For USA Residents
Use Only



United States Environmental Protection Agency
Washington, DC 20460

**Hazardous Waste Permit
Application
Part A**

SEP 20 1967

| | | | |
|---|--|---|-------------|
| 1. Inspector's EPA ID Number (Mark 'X' in the appropriate box) | | <input type="checkbox"/> A. First Part A Submission <input type="checkbox"/> B. Part A Amendment | |
| C. Insulator's EPA ID Number | | D. Secondary ID Number (if applicable) | |
| E. Name of Facility N H 0 0 0 1 0 0 2 4 8 4 | | | |
| F. Facility Location (Physical address not P.O. Box or Route Number) T R I A S S I C P A R K W A S T E I N D U S T R I A L | | | |
| G. Street U S H W Y 3 8 0 | | | |
| H. Street (Continued) 3 6 H I L E S W O E T A T U H N H | | | |
| City or Town | | State | ZIP Code |
| T A T U H | | N H | 0 8 2 6 7 - |
| County Name | | County Code | |
| C H A Y E S | | N H | |
| B. Land Type | | C. Geographic Location | |
| (Enter code) | | LATITUDE (Degrees, minutes, & seconds) | |
| P | | 3 3 2 2 0 0 0 1 0 3 5 1 0 0 0 0 | |
| IV. Facility Mailing Address | | Street or P.O. Box | |
| 1 1 0 9 E B R O A D K A Y | | City or Town | |
| T A T U H | | State | ZIP Code |
| N H | | N H | 0 8 2 6 7 - |
| V. Facility Contact (Person to be contacted regarding waste activities at facility) | | Name (Last) | |
| J A N D Y | | J A N D Y | |
| Job Title | | Phone Number (Area Code and Number) | |
| V I C E P R E S I D E N T | | 5 0 5 - 4 9 8 - 1 9 6 0 | |
| VI. Facility Contact (Address (See instructions)) | | A. Contact Address | |
| B. Street or P.O. Box | | Location Mailing Date | |
| X | | | |
| City or Town | | State | ZIP Code |
| | | | |

EPA ID Number (Enter from page 1)

Secondary ID Number (Enter from page 1) 4-

N N 0 0 0 1 0 0 2 4 8 4

XI. Nature of Business (Provide a brief description)

TRIASSIC PARK WASTE DISPOSAL WILL ACCEPT RCRA HAZARDOUS WASTE AND TSCA PCB WASTE FROM OFF-SITE GENERATORS FOR TREATMENT AND PERMANENT DISPOSAL.

TEMPORARY ON-SITE STORAGE IN CONTAINERS AND TANKS IS PROVIDED PRIOR TO TREATMENT AND DISPOSAL.

XII. Process Codes and Design Capacities

A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process (provided in all cases of the business. The two lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the appropriate information. For "other" processes (LA, DM, SP, TM and XPS), describe the process (including its design capacity) in the space provided in Item XII.

B. PROCESS DESIGN CAPACITY - For each code entered in column A, enter the capacity of the process.

1. AMOUNT - Enter the amount, in a case where design capacity is not applicable (such as in a closed-loop system or an enclosed system) enter the total amount of waste for that process.
2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

C. PROCESS TOTAL NUMBER OF UNITS - Enter the total number of units used with the corresponding process code.

| PROCESS CODE | PROCESS | APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY | PROCESS CODE | PROCESS | APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY |
|--------------|-----------------------|---|--------------|--------------------------------------|---|
| 079 | Underground Injection | Gallons; Liters; Gallons Per Day; or Liters Per Day | 727 | Brewing, Maltng, Or Refining Furnace | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Str's Per Hour |
| 080 | Landfill | Acres-foot or Hectares-meter | 728 | Thermal Oxidation | |
| 081 | Land Treatment | Acres or Hectares | 729 | Chloride Process | |
| 082 | Open Disposal | Gallons Per Day or Liters Per Day | 730 | Chloride Process | |
| 083 | Surface Impoundment | Gallons or Liters | 731 | Chloride Process | |
| 084 | Other Storage | Any Unit of Measure Listed Below | 732 | Chloride Process | |
| 085 | Storage | | 733 | Chloride Process | Cubic Yards or Cubic Meters |
| 086 | Container | Gallons or Liters | 734 | Chloride Process | |
| 087 | Tank | Gallons or Liters | 735 | Chloride Process | |
| 088 | Waste Pile | Cubic Yards or Cubic Meters | 736 | Chloride Process | |
| 089 | Surface Impoundment | Gallons or Liters | 737 | Chloride Process | |
| 090 | On-Pipe | Gallons or Liters | 738 | Chloride Process | Any Unit of Measure Listed Below |
| 091 | Containment Building | Cubic Yards or Cubic Meters | 739 | Chloride Process | |
| 092 | Other Disposal | Any Unit of Measure Listed Below | 740 | Chloride Process | |
| 093 | Treatment | | 741 | Chloride Process | |
| 094 | Tank | Gallons Per Day or Liters Per Day | 742 | Chloride Process | |
| 095 | Surface Impoundment | Gallons Per Day or Liters Per Day | 743 | Chloride Process | Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; or Str's Per Hour |
| 096 | Incinerator | Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; or Str's Per Hour | 744 | Chloride Process | |
| 097 | Other Treatment | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Str's Per Hour | 745 | Chloride Process | |
| 098 | Buffer | Gallons or Liters | 746 | Chloride Process | |
| 099 | Cement Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Str's Per Hour | 747 | Chloride Process | |
| 100 | Urea Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Str's Per Hour | 748 | Chloride Process | Cubic Yards or Cubic Meters |
| 101 | Ammonia Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Str's Per Hour | 749 | Chloride Process | |
| 102 | Phosphate Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Str's Per Hour | 750 | Chloride Process | |
| 103 | Coal Oven | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Str's Per Hour | 751 | Chloride Process | |
| 104 | Steel Furnace | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Str's Per Hour | 752 | Chloride Process | |
| 105 | Other | | 753 | Chloride Process | Any Unit of Measure Listed Below |
| 106 | Other | | 754 | Chloride Process | |
| 107 | Other | | 755 | Chloride Process | |
| 108 | Other | | 756 | Chloride Process | |
| 109 | Other | | 757 | Chloride Process | |

| UNIT OF MEASURE | UNIT OF MEASURE CODE | UNIT OF MEASURE | UNIT OF MEASURE CODE | UNIT OF MEASURE | UNIT OF MEASURE CODE |
|------------------|----------------------|----------------------|----------------------|-----------------|----------------------|
| Gallons | G | Short Tons Per Hour | D | Cubic Yards | Y |
| Gallons Per Hour | H | Metric Tons Per Hour | W | Cubic Meters | C |
| Gallons Per Day | U | Short Tons Per Day | N | Acres | A |
| Liters | L | Metric Tons Per Day | S | Acres-foot | F |
| Liters Per Hour | N | Pounds Per Hour | J | Hectares | H |
| Liters Per Day | V | Kilograms Per Hour | K | Hectares-meter | P |
| | | | | Str's Per Hour | I |

EPA ID Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

X X 0 0 0 1 0 0 2 4 8 4

XIV: Description of Hazardous Waste

- A. EPA HAZARDOUS WASTE NUMBER** - Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristic and/or the toxic constituents of those hazardous wastes.
- B. ESTIMATED ANNUAL QUANTITY** - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic constituent entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or constituent.
- C. UNIT OF MEASURE** - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

| ENGLISH UNIT OF MEASURE | CODE | METRIC UNIT OF MEASURE | CODE |
|-------------------------|------|------------------------|------|
| POUNDS | P | KILOGRAMS | K |
| TONS | T | METRIC TONS | M |

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES**1. PROCESS CODES:**

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item XV A, on page 2 to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic constituent entered in column A, select the code(s) from the list of process codes contained in Item XV A, on page 2 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous waste(s) that possess that characteristic or toxic constituent.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

- Enter the first two as described above.
- Enter "00" in the extreme right box of Item XIV-C(2).
- Enter in the space provided on page 7, Item XIV-E, the line number and the additional code(s).

- 2. PROCESS DESCRIPTION:** If a code is not listed for a process that will be used, describe the process in the space provided on the form (D.2).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

- Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C and D by entering the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries in that line.
- Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM XIV (shown in line numbers X-1, X-2, X-3, and X-4 below): A facility will treat and dispose of an estimated 800 pounds per year of oil-based shavings from leather tanning and finishing operation. In addition, this facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

| Line Number | A. EPA HAZARD WASTE NO. (Enter code) | | | | B. ESTIMATED ANNUAL QUANTITY OF WASTE | C. UNIT OF MEASURE (Enter code) | D. PROCESS | | | | | | | | | |
|-------------|--------------------------------------|---|---|---|---------------------------------------|---------------------------------|---------------------------|---|---|---|---|---|--|--|--|---------------------|
| | | | | | | | (1) PROCESS CODES (Enter) | | | | | (2) PROCESS DESCRIPTION (If a code is not listed in C(1)) | | | | |
| X 1 | 1 | K | 0 | 0 | 4 | 800 | P | T | 0 | 0 | 0 | 0 | | | | |
| X 2 | 2 | 0 | 0 | 0 | 2 | 400 | P | T | 0 | 0 | 0 | 0 | | | | |
| X 3 | 3 | 0 | 0 | 0 | 1 | 100 | P | T | 0 | 0 | 0 | 0 | | | | |
| X 4 | 4 | 0 | 0 | 0 | 2 | - | | | | | | | | | | Included with Above |

EPA ID Number (Enter from page 1)

N M 0 0 0 1 0 0 2 4 8 4

Secondary ID Number (Enter from page 1)

XV. Map

Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

XVI. Facility Drawing

All existing facilities must include a scale drawing of the facility (See instructions for more detail).

XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures, existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

XVIII. Certification(s)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner Signature

Date Signed

Name and Official Title (Type or print)

Owner Signature

Date Signed

Name and Official Title (Type or print)

Operator Signature

Date Signed

Name and Official Title (Type or print)

Operator Signature

Date Signed

Name and Official Title (Type or print)

XIX. Comments

PART XIV - WASTES THAT DO NOT MEET LDR TREATMENT STANDARDS WILL BE MANAGED AT ONE OR MORE PERMITTED UNITS PRIOR TO LAND DISPOSAL.

Note: Mail completed form to the appropriate EPA Regional or State Office. (Refer to instructions for more information.)

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| D001 | Only those ignitable wastes which can be tested by prescribed methods prior to placement in the landfill. | 42,120 | T | D40, T01, S01, S02, T02 | |
| D002 | Only those corrosive wastes which can be tested by prescribed methods prior to placement in the landfill. | 42,120 | T | D40, T01, S01, S02, T02 | |
| D003 | Only those reactive wastes which can be tested by prescribed methods prior to placement in the landfill. | 42,120 | T | D40, T01, S01, S02, T02 | |
| D004 | Arsenic | 42,120 | T | D40, T01, S01, S02, T02 | |
| D005 | Beryllium | 42,120 | T | D40, T01, S01, S02, T02 | |
| D006 | Cadmium | 42,120 | T | D40, T01, S01, S02, T02 | |
| D007 | Chromium | 42,120 | T | D40, T01, S01, S02, T02 | |
| D008 | Copper | 42,120 | T | D40, T01, S01, S02, T02 | |
| D009 | Lead | 42,120 | T | D40, T01, S01, S02, T02 | |
| D010 | Mercury | 42,120 | T | D40, T01, S01, S02, T02 | |
| D011 | Selenium | 42,120 | T | D40, T01, S01, S02, T02 | |
| D012 | Silver | 42,120 | T | D40, T01, S01, S02, T02 | |
| D013 | Vanadium | 42,120 | T | D40, T01, S01, S02, T02 | |
| D014 | Zinc | 42,120 | T | D40, T01, S01, S02, T02 | |
| D015 | Chlorine | 42,120 | T | D40, T01, S01, S02, T02 | |
| D016 | Fluorine | 42,120 | T | D40, T01, S01, S02, T02 | |
| D017 | Hydrogen | 42,120 | T | D40, T01, S01, S02, T02 | |
| D018 | Carbon monoxide | 42,120 | T | D40, T01, S01, S02, T02 | |
| D019 | Carbon dioxide | 42,120 | T | D40, T01, S01, S02, T02 | |
| D020 | Chloroform | 42,120 | T | D40, T01, S01, S02, T02 | |
| D021 | Chlorobenzene | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| API CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|-------------------------------|------------------------------------|-----------------|--------------------------|---------------------|
| D022 | Chloroform | 42,120 | T | D001, T01, S01, S02, T02 | |
| D023 | p-Chlorol | 42,120 | T | D001, T01, S01, S02, T02 | |
| D024 | m-Chlorol | 42,120 | T | D001, T01, S01, S02, T02 | |
| D025 | p-Chlorol | 42,120 | T | D001, T01, S01, S02, T02 | |
| D026 | Cresol | 42,120 | T | D001, T01, S01, S02, T02 | |
| D027 | 1,4-Dichlorobenzene | 42,120 | T | D001, T01, S01, S02, T02 | |
| D028 | 1,2-Dichlorobenzene | 42,120 | T | D001, T01, S01, S02, T02 | |
| D029 | 1,1-Dichloroethylene | 42,120 | T | D001, T01, S01, S02, T02 | |
| D030 | 2,4-Dichlorobenzene | 42,120 | T | D001, T01, S01, S02, T02 | |
| D031 | Heptachlor (and its isomers) | 42,120 | T | D001, T01, S01, S02, T02 | |
| D032 | Heptachlor epoxide | 42,120 | T | D001, T01, S01, S02, T02 | |
| D033 | Hexachlorobenzene | 42,120 | T | D001, T01, S01, S02, T02 | |
| D034 | Hexachlorocyclopentadiene | 42,120 | T | D001, T01, S01, S02, T02 | |
| D035 | Methyl ethyl benzene | 42,120 | T | D001, T01, S01, S02, T02 | |
| D036 | Nitrobenzene | 42,120 | T | D001, T01, S01, S02, T02 | |
| D037 | Permethrin | 42,120 | T | D001, T01, S01, S02, T02 | |
| D038 | Pyridine | 42,120 | T | D001, T01, S01, S02, T02 | |
| D039 | Tricarballylic acid | 42,120 | T | D001, T01, S01, S02, T02 | |
| D040 | Trichloroethylene | 42,120 | T | D001, T01, S01, S02, T02 | |
| D041 | 2,4,5-Trichlorophenol | 42,120 | T | D001, T01, S01, S02, T02 | |
| D042 | 2,4,6-Trichlorophenol | 42,120 | T | D001, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERIZATION OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---------------------------------|------------------------------------|-----------------|-------------------------|---------------------|
| D043 | Vinyl chloride | 42,120 | T | D40, T01, S01, S02, T02 | |

| EPA CODE | CHARACTERIZATION OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| F001 | The following spent halogenated solvents used in degreasing: Trichloroethylene, tetrachloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chloroform. Fluorocarbon: All spent solvent mixtures. All spent solvents used in degreasing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or these solvents listed in F002, F004, and F005; and will become from the recovery of these spent solvents and spent solvent mixtures. | 42,120 | T | D40, T01, S01, S02, T02 | |
| F002 | The following spent halogenated solvents: Trichloroethylene, methylene chloride, tetrachloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, 1,1,2-trichloroethane, 1,1,2,2-tetrachloroethane, perchloroethylene, and 1,1,2,2-tetrachloroethane. All halogenated solvent mixtures. All solvents used in degreasing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or these solvents listed in F001, F004, and F005; and will become from the recovery of these spent solvents and spent solvent mixtures. | 42,120 | T | D40, T01, S01, S02, T02 | |
| F003 | The following spent non-halogenated solvents: Xylene, toluene, ethyl acetate, methyl acetate, methyl isobutyl ketone, isobutyl acetate, cyclohexane, and hexane. All spent solvent mixtures. All solvents used in degreasing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or these solvents listed in F001, F004, and F005; and will become from the recovery of these spent solvents and spent solvent mixtures. | 42,120 | T | D40, T01, S01, S02, T02 | |
| F004 | The following spent non-halogenated solvents: Grease and complex oils, and mineral oils. All spent solvent mixtures. All solvents used in degreasing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or these solvents listed in F001, F002, and F005; and will become from the recovery of these spent solvents and spent solvent mixtures. | 42,120 | T | D40, T01, S01, S02, T02 | |
| F005 | The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, hexane, pyridine, heptane, 2-methylhexane, and 2-methylpentane. All spent solvent mixtures. All solvents used in degreasing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or these solvents listed in F001, F002, and F004; and will become from the recovery of these spent solvents and spent solvent mixtures. | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| R006 | Waste water treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (sacrificial anodes) on carbon steel; (4) aluminum or zinc-phosphorus plating on carbon steel; (5) chromate/chromate treatment with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and etching of aluminum | 42,120 | T | D40, T01, S01, S02, T02 | |
| R007 | Spent cyanide plating bath solutions from electroplating operations | 42,120 | T | D40, T01, S01, S02, T02 | |
| R008 | Plating bath residues from the bottoms of plating baths from electroplating operations where cyanides are used in the process | 42,120 | T | D40, T01, S01, S02, T02 | |
| R009 | Spent etching and cleaning bath solutions from electroplating operations where cyanides are used in the process | 42,120 | T | D40, T01, S01, S02, T02 | |
| R010 | Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process | 42,120 | T | D40, T01, S01, S02, T02 | |
| R011 | Spent cyanide solutions from oil bath post cleaning from metal heat treating operations | 42,120 | T | D40, T01, S01, S02, T02 | |
| R012 | Quenching water waste treatment sludges from metal heat treating operations where cyanides are used in the process | 42,120 | T | D40, T01, S01, S02, T02 | |
| R019 | Waste water treatment sludges from the chemical conversion coating of aluminum except from aluminum phosphating or aluminum that coating when such phosphating is an anodizing conversion coating process | 42,120 | T | D40, T01, S01, S02, T02 | |
| R004 | Process wastes, including but not limited to: (1) effluents, heavy metal, toxic, and reactor clean-out wastes from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chains longer than ethyl and including fluoro, with varying amounts and positions of chlorine substitution. (2) Still bottom sludge and bottoms, wastewater treatment sludges, spent catalysts, and wastes listed in E261.31 or E261.32. | 42,120 | T | D40, T01, S01, S02, T02 | |
| R025 | Condensate, light ends, spent solvent and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chains longer than ethyl, with varying amounts and positions of chlorine substitution | 42,120 | T | D40, T01, S01, S02, T02 | |
| R026 | Residues resulting from the incineration of thermal treatment of soil contaminated with EPA Hazardous Waste Nos. R020, R021, R022, R029, R035, R037. | 42,120 | T | D40, T01, S01, S02, T02 | |
| R032 | Wastewater (ground water and surface water) contaminated with process contaminants, process residuals, process effluents, and spent desiccants from wood preserving processes generated at plants that currently use or have previously used chlorinated aliphatic hydrocarbons (excluding pentachloroethane) as preservatives for wood. The R032 waste can be found in Appendix 1, Part 40 CFR 261.33 of this chapter and where the preservative does not consist of halogenated aromatic hydrocarbons. The listing does not include R031 because solvent sludges from the treatment of wastewater from wood preserving processes that use preservatives and/or preservatives. | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|--|------------------------------------|-----------------|-------------------------|---------------------|
| R004 | Wastewater (except those that have not come into contact with process contaminants), process residuals, process water, and other liquids from waste processing processes generated at plants that are currently in operation. This liquid does not include K001 bottom sediment sludge from the treatment of wastewater from waste processing processes that has contacted sulfur pentachlorophenol. | 42,120 | T | D40, T01, S01, S02, T02 | |
| R005 | Wastewater (except those that have not come into contact with process contaminants), process residuals, process water, and other liquids from waste processing processes generated at plants that are currently in operation. This liquid does not include K001 bottom sediment sludge from the treatment of wastewater from waste processing processes that has contacted sulfur pentachlorophenol. | 42,120 | T | D40, T01, S01, S02, T02 | |
| R007 | Wastewater (except those that have not come into contact with process contaminants), process residuals, process water, and other liquids from waste processing processes generated at plants that are currently in operation. This liquid does not include K001 bottom sediment sludge from the treatment of wastewater from waste processing processes that has contacted sulfur pentachlorophenol. | 42,120 | T | D40, T01, S01, S02, T02 | |
| R008 | Wastewater (except those that have not come into contact with process contaminants), process residuals, process water, and other liquids from waste processing processes generated at plants that are currently in operation. This liquid does not include K001 bottom sediment sludge from the treatment of wastewater from waste processing processes that has contacted sulfur pentachlorophenol. | 42,120 | T | D40, T01, S01, S02, T02 | |
| R009 | Wastewater (except those that have not come into contact with process contaminants), process residuals, process water, and other liquids from waste processing processes generated at plants that are currently in operation. This liquid does not include K001 bottom sediment sludge from the treatment of wastewater from waste processing processes that has contacted sulfur pentachlorophenol. | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTICS OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|--|------------------------------------|-----------------|-------------------------|---------------------|
| K001 | Residue streams sludge from the treatment of wastewater from wood preserving processes that use cresols and/or pentachlorophenol | 42,120 | T | D40, T01, S01, S02, T02 | |
| K002 | Wastewater treatment sludge from the production of chrome yellow and orange pigments | 42,120 | T | D40, T01, S01, S02, T02 | |
| K003 | Wastewater treatment sludge from the production of methylene orange pigments | 42,120 | T | D40, T01, S01, S02, T02 | |
| K004 | Wastewater treatment sludge from the production of zinc yellow pigments | 42,120 | T | D40, T01, S01, S02, T02 | |
| K005 | Wastewater treatment sludge from the production of chromed green pigments | 42,120 | T | D40, T01, S01, S02, T02 | |
| K006 | Wastewater treatment sludge from the production of carbon oxide green pigments (anhydrous and hydrated) | 42,120 | T | D40, T01, S01, S02, T02 | |
| K007 | Wastewater treatment sludge from the production of iron blue pigments | 42,120 | T | D40, T01, S01, S02, T02 | |
| K008 | Over residues from the production of chrome oxide green pigments | 42,120 | T | D40, T01, S01, S02, T02 | |
| K009 | Distillation bottoms from the production of acetylacetyls from styrene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K010 | Distillation side runs from the production of acetylacetyls from styrene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K011 | Residue streams from the wastewater in paper in the production of acrylonitrile | 42,120 | T | D40, T01, S01, S02, T02 | |
| K012 | Residue streams from the wastewater in paper in the production of acrylonitrile | 42,120 | T | D40, T01, S01, S02, T02 | |
| K013 | Residue streams from the wastewater in paper in the production of acrylonitrile | 42,120 | T | D40, T01, S01, S02, T02 | |
| K014 | Residue streams from the wastewater in paper in the production of acrylonitrile | 42,120 | T | D40, T01, S01, S02, T02 | |
| K015 | Spill bottoms from the distillation of heavy chlorides | 42,120 | T | D40, T01, S01, S02, T02 | |
| K016 | Heavy ends or distillation residues from the production of sodium perchlorate | 42,120 | T | D40, T01, S01, S02, T02 | |
| K017 | Heavy ends (all bottoms) from the production of sodium perchlorate | 42,120 | T | D40, T01, S01, S02, T02 | |
| K018 | Heavy ends from the production of sodium perchlorate | 42,120 | T | D40, T01, S01, S02, T02 | |
| K019 | Heavy ends from the production of sodium perchlorate | 42,120 | T | D40, T01, S01, S02, T02 | |
| K020 | Heavy ends from the production of sodium perchlorate | 42,120 | T | D40, T01, S01, S02, T02 | |
| K021 | Aqueous spent catalytic waste from the production of sodium perchlorate | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| K002 | Distillation bottom tars from the production of phenolacetone from cumene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K003 | Distillation light ends from the production of phthalic anhydride from naphthalene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K004 | Distillation bottom tars from the production of phthalic anhydride from naphthalene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K005 | Distillation bottoms from the production of isocyanuric acid by the reaction of isocyanate | 42,120 | T | D40, T01, S01, S02, T02 | |
| K006 | Slipping still tails from the production of amyl ethyl pyridine | 42,120 | T | D40, T01, S01, S02, T02 | |
| K007 | Crystallizer and distillation residues from isobutene dicyclopentadiene production | 42,120 | T | D40, T01, S01, S02, T02 | |
| K008 | Spent catalyst from the hydrochloride reactor in the production of 1,1,1-trichloroethane | 42,120 | T | D40, T01, S01, S02, T02 | |
| K009 | Waste from the product mass stripper in the production of 1,1,1-trichloroethane | 42,120 | T | D40, T01, S01, S02, T02 | |
| K010 | Chlorine byproducts from the combined production of isobutene and perchloroethylene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K011 | Byproducts and sludge from the production of MMA and acrylic acid | 42,120 | T | D40, T01, S01, S02, T02 | |
| K012 | Wastewater treatment sludge from the production of chloroform | 42,120 | T | D40, T01, S01, S02, T02 | |
| K013 | Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chloroform | 42,120 | T | D40, T01, S01, S02, T02 | |
| K014 | Slurry solids from the reaction of isocyanuric acid in the production of chloroform | 42,120 | T | D40, T01, S01, S02, T02 | |
| K015 | Wastewater treatment sludge generated in the production of cyclohexane | 42,120 | T | D40, T01, S01, S02, T02 | |
| K016 | Still bottoms from solvent recovery distillation in the production of chloroform | 42,120 | T | D40, T01, S01, S02, T02 | |
| K017 | Wastewater treatment sludge from the production of chloroform | 42,120 | T | D40, T01, S01, S02, T02 | |
| K018 | Wastewater from the washing and stripping of pyrene production | 42,120 | T | D40, T01, S01, S02, T02 | |
| K019 | Water salts from the distillation of diethylphosphorylchloride acid in the production of pyrene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K020 | Wastewater treatment sludge from the production of pyrene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K021 | Wastewater treatment sludge from the production of pyrene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K022 | Slurry solids of chloroform residues from the distillation of isocyanuric acid in the production of 1,1,1-trichloroethane | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTICS OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE (Tons) | TYPE OF WASTE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|---|---------------|-------------------------|---------------------|
| K043 | 2,6-Dichlorophenol waste from the production of 2,4-D | 42,120 | T | D40, T01, S01, S02, T02 | |
| K044 | Wastewater treatment sludge from the manufacturing and processing of explosives | 42,120 | T | D40, T01, S01, S02, T02 | |
| K045 | Spent carbon from the treatment of wastewater containing explosives | 42,120 | T | D40, T01, S01, S02, T02 | |
| K046 | Wastewater treatment sludge from the manufacturing, formulation and loading of lead-based initiating compounds | 42,120 | T | D40, T01, S01, S02, T02 | |
| K047 | Exhausted water from TNT operations | 42,120 | T | D40, T01, S01, S02, T02 | |
| K048 | Dissolved air flotation (DAF) from the petroleum refining industry | 42,120 | T | D40, T01, S01, S02, T02 | |
| K049 | Slip oil separator residue from the petroleum refining industry | 42,120 | T | D40, T01, S01, S02, T02 | |
| K050 | Heat exchanger bundle cleaning sludge from the petroleum refining industry | 42,120 | T | D40, T01, S01, S02, T02 | |
| K051 | API separator sludge from the petroleum refining industry | 42,120 | T | D40, T01, S01, S02, T02 | |
| K052 | Tank bottoms (united) from the petroleum refining industry | 42,120 | T | D40, T01, S01, S02, T02 | |
| K060 | Asphaltic mill lime sludge from rolling operations | 42,120 | T | D40, T01, S01, S02, T02 | |
| K061 | Emulsion control dust/sludge from the primary production of steel in electric furnaces | 42,120 | T | D40, T01, S01, S02, T02 | |
| K062 | Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332) | 42,120 | T | D40, T01, S01, S02, T02 | |
| K064 | Acid plant blowdown sludge resulting from the pickling of blowdown slurry from primary copper production | 42,120 | T | D40, T01, S01, S02, T02 | |
| K065 | Surface impoundment solids contained in and dredged from surface impoundments at primary lead smelting facilities | 42,120 | T | D40, T01, S01, S02, T02 | |
| K066 | Sludge from treatment of process wastewater/water acid plant blowdown from primary zinc production | 42,120 | T | D40, T01, S01, S02, T02 | |
| K069 | Exhaustion control dust/sludge from secondary lead smelting. (Note: This listing is added administratively for sludge generated from secondary acid scrubber systems. The way will result in effect until further administrative action is taken. If EPA takes further action affecting this entry, EPA will publish a notice of the action in the Federal Register.) | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| ATA CODE | CHARACTERISTICS OF CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | DATE OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| K071 | Brine purification waste from the mercury cell process in chlorine production, where separately preprecipitated brine is used | 42,120 | T | D40, T01, S01, S02, T02 | |
| K073 | Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production | 42,120 | T | D40, T01, S01, S02, T02 | |
| K083 | Distillation bottoms from selling production | 42,120 | T | D40, T01, S01, S02, T02 | |
| K084 | Wastewater treatment residues generated during the production of veterinary pharmaceuticals from acetone or organosolvent components | 42,120 | T | D40, T01, S01, S02, T02 | |
| K085 | Distillation or fractionation column bottoms from the production of chlorobenzene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K086 | Solvent wastes and sludges, caustic wastes and sludges, or water wastes and sludges from cleaning jobs and equipment used in the formulation of ink from pigments, dyes, resins, and materials containing chlorobenzene and ink | 42,120 | T | D40, T01, S01, S02, T02 | |
| K087 | Decane tank or sludge from selling operations | 42,120 | T | D40, T01, S01, S02, T02 | |
| K088 | Spent raffinate from primary chlorobenzene production | 42,120 | T | D40, T01, S01, S02, T02 | |
| K090 | Distillation control sludge or sludge from benzenechlorobenzene production | 42,120 | T | D40, T01, S01, S02, T02 | |
| K091 | Distillation control sludge or sludge from benzenechlorobenzene production | 42,120 | T | D40, T01, S01, S02, T02 | |
| K092 | Distillation light ends from the production of phenolic isobutylide from ortho-xylene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K094 | Distillation bottoms from the production of phenolic isobutylide from ortho-xylene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K095 | Distillation bottoms from the production of 1,3-dichlorobenzene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K096 | Heavy ends from the heavy ends column from the production of 1,3-dichlorobenzene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K097 | Vacuum stripper discharge from the chlorobenzene chlorinator in the production of chlorobenzene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K098 | Unreacted percent wastewater from the production of benzene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K099 | Unreacted wastewater from the production of 2,4-D | 42,120 | T | D40, T01, S01, S02, T02 | |
| K100 | Waste handling solution from acid leaching of emission control desulfurizer from secondary lead smelting | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OF CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| K101 | Distillation residues from the distillation of acetone-based compounds in the production of veterinary pharmaceuticals from acetone or organic-acetone compounds | 42,120 | T | D40, T01, S01, S02, T02 | |
| K102 | Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from acetone or organic-acetone compounds | 42,120 | T | D40, T01, S01, S02, T02 | |
| K103 | Process residues from solvent extraction from the production of acetone | 42,120 | T | D40, T01, S01, S02, T02 | |
| K104 | Condensed wastewater streams generated from chlorobenzene production | 42,120 | T | D40, T01, S01, S02, T02 | |
| K105 | Separated aqueous stream from the reaction product washing step in the production of chlorobenzene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K106 | Wastewater treatment sludge from the secondary cell process in chlorobenzene production | 42,120 | T | D40, T01, S01, S02, T02 | |
| K107 | Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides | 42,120 | T | D40, T01, S01, S02, T02 | |
| K108 | Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides | 42,120 | T | D40, T01, S01, S02, T02 | |
| K109 | Spent filter cake from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides | 42,120 | T | D40, T01, S01, S02, T02 | |
| K110 | Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides | 42,120 | T | D40, T01, S01, S02, T02 | |
| K111 | Product wastewater from the production of chlorobenzene via nitration of toluene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K112 | Reaction by-product water from the drying column in the production of chlorobenzene via hydrogenation of nitrobenzene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K113 | Condensed liquid light ends from the purification of nitrobenzene in the production of chlorobenzene via hydrogenation of nitrobenzene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K114 | Wetends from the purification of nitrobenzene in the production of chlorobenzene via hydrogenation of nitrobenzene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K115 | Heavy ends from the purification of nitrobenzene in the production of chlorobenzene via hydrogenation of nitrobenzene | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| WASTE CODE | CHARACTERISTICS OF CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | LOCATION OF WASTE | PROCESS CODES | PROCESS DESCRIPTION |
|------------|---|------------------------------------|-------------------|-------------------------|---------------------|
| K116 | Organic condensate from the solvent recovery column in the production of sodium diisocyanate via phosphorylation of phosgene | 42,120 | T | D40, T01, S01, S02, T02 | |
| K117 | Wastewater from the reactor vent gas scrubber in the production of ethylene diamine via bromination of ethane | 42,120 | T | D40, T01, S01, S02, T02 | |
| K118 | Spent absorption solids from purification of ethylene diamine in the production of ethylene diamine via bromination of ethane | 42,120 | T | D40, T01, S01, S02, T02 | |
| K119 | Process wastewater (including wastewater, solvent, and wastewater) from the production of ethylenediamine | 42,120 | T | D40, T01, S01, S02, T02 | |
| K124 | Reactor vent scrubber water from the production of ethylenediamine | 42,120 | T | D40, T01, S01, S02, T02 | |
| K125 | Filtration, evaporation, and centrifugation solids from the production of ethylenediamine | 42,120 | T | D40, T01, S01, S02, T02 | |
| K126 | High-purity acid and floor sweepings in milling and packaging operations from the production of ethylenediamine | 42,120 | T | D40, T01, S01, S02, T02 | |
| K131 | Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide | 42,120 | T | D40, T01, S01, S02, T02 | |
| K132 | Spent absorbent and wastewater separator solids from the production of methyl bromide | 42,120 | T | D40, T01, S01, S02, T02 | |
| K136 | Sulfur streams from the purification of ethylenediamine in the production of ethylene diamine via bromination of ethane | 42,120 | T | D40, T01, S01, S02, T02 | |
| K141 | Process residues from the recovery of coal tar, including, but not limited to, collecting pump residues from the purification of water from coal tar, the recovery of water from coal tar, and the recovery of water from coal tar (this listing does not include 2007 electronic waste recycling operations) | 42,120 | T | D40, T01, S01, S02, T02 | |
| K143 | The process and residues from the production of cable from coal or from the recovery of cable by-products from coal | 42,120 | T | D40, T01, S01, S02, T02 | |
| K145 | Process residues from the recovery of light oil, including, but not limited to, those generated in stills, distillers, and wash oil recovery units from the recovery of cable by-products produced from coal | 42,120 | T | D40, T01, S01, S02, T02 | |
| K146 | Wastewater pump residues from light oil including, but not limited to, intercepting or combustion pump residues from the recovery of cable by-products produced from coal | 42,120 | T | D40, T01, S01, S02, T02 | |
| K148 | Residues from wastewater collection and recovery operations from the recovery of cable by-products produced from coal | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| K147 | Tar mixture wash residues from coal tar refining | 42,120 | T | D40, T01, S01, S02, T02 | |
| K148 | Residues from coal tar distillation, including but not limited to, still bottoms | 42,120 | T | D40, T01, S01, S02, T02 | |
| K149 | Distillation bottoms from the production of alpha-(or methyl-) chlorinated solvents, vinyl-chlorinated solvents, brominated solvents, and compounds with mixtures of these functional groups (this waste does not include still bottoms from the distillation of heavy alcohols) | 42,120 | T | D40, T01, S01, S02, T02 | |
| K150 | Organic residuals, including spent carbon adsorbents, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha-(or methyl-) chlorinated solvents, vinyl-chlorinated solvents, brominated solvents, and compounds with mixtures of these functional groups | 42,120 | T | D40, T01, S01, S02, T02 | |
| K151 | Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewater from the production of alpha-(or methyl-) chlorinated solvents, vinyl-chlorinated solvents, brominated solvents, and compounds with mixtures of these functional groups | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| P000 | Phenol, 2-(1-methyl-1-propyl)-4,6-dinitro-, Discrete | 42,120 | T | D40, T01, S01, S02, T02 | |
| P001 | Calcium cyanide, Calcium cyanide Ca(CN) ₂ | 42,120 | T | D40, T01, S01, S02, T02 | |
| P002 | Carbon disulfide | 42,120 | T | D40, T01, S01, S02, T02 | |
| P003 | Acetaldehyde, chloro-, Chloroacetaldehyde | 42,120 | T | D40, T01, S01, S02, T02 | |
| P004 | Benzenesulfonate, 4-chloro-, p-Chlorobenzenesulfonate | 42,120 | T | D40, T01, S01, S02, T02 | |
| P005 | Thionam, 2-chloro-2-thio-1,1-dimethyl-3-thioammonium chloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| P006 | Propionitrile, 3-chloro-, 3-Chloropropionitrile | 42,120 | T | D40, T01, S01, S02, T02 | |
| P007 | Benzene, (chloromethyl)-, Benzyl chloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| P008 | Copper cyanide, Copper cyanide Cu(CN) ₂ | 42,120 | T | D40, T01, S01, S02, T02 | |
| P009 | Quaternary (ammonium cyanide salts), and intermediate specified | 42,120 | T | D40, T01, S01, S02, T02 | |
| P010 | Hydrocyanic acid, Cyanogen | 42,120 | T | D40, T01, S01, S02, T02 | |
| P011 | Cyanogen chloride (DNCN), Cyanogen chloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| P012 | 2-Cyanoethyl 4,6-dinitrophenyl, Phenyl 2-cyanoethyl 4,6-dinitro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| P013 | Dichlorophenylamine, Arsenous dichloride, phenyl- | 42,120 | T | D40, T01, S01, S02, T02 | |
| P014 | Dichloro, 2,7,3,6-tetrachloro-2,3,6-trichloro, 1,4,5,6,7,8-hexachloro-1,2,3,4,5,6,7,8-octachloro-, (1,4,5,6,7,8-hexachloro-2,3,6-trichloro-2,3,6-trichloro-1,2,3,4,5,6,7,8-octachloro-) | 42,120 | T | D40, T01, S01, S02, T02 | |
| P015 | Acetic acid, Diethylamine | 42,120 | T | D40, T01, S01, S02, T02 | |
| P016 | Dichloro-, Phosphorochloric acid, O-Octadecyl 1,5-[2-(ethoxyethoxy)] ester | 42,120 | T | D40, T01, S01, S02, T02 | |
| P017 | O,O-Diethyl O-ethyl phosphorothioate, Phosphorothioic acid, O,O-diethyl O-ethyl ester | 42,120 | T | D40, T01, S01, S02, T02 | |
| P018 | Phosphoric acid, diethyl 4-ethylphosphonate, Diethyl p-ethylphosphonate | 42,120 | T | D40, T01, S01, S02, T02 | |
| P019 | Phosphoric acid, 1,2-bis(methylamino)-4-[1-cyanoethyl]-3-(methoxyamino)ethyl- | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| RFA CODE | CHARACTERISTIC OF CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| P067 | Acetates, 2-methyl-, 1,2-Propanediols | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P068 | Methyl isocyanates, Hydroxides, methyl- | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P069 | 2-Methoxyethanol, Propionitrile, 2-hydroxy-2-methyl- | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P070 | Proposed, 2-methyl-2-(methylthio)-, O-[(methylthio)-methylthio] oxime, Aldicarb | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P071 | Phosphotriethyl ester, O,O'-dimethyl O-(4-methylphenyl) ester, Methyl parathion | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P072 | Thiourea, 1-methylthio-, ethyl-N-propylthiourea | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P073 | Nickel carbonyl Ni(CO) ₄ , (T-4)-, Nickel carbonyl | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P074 | Nickel cyanide, Nickel cyanide Ni(CN) ₂ | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P075 | Nicotinic acid, Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (D-), & salts | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P076 | Nitric oxide, Nitrogen oxide NO | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P077 | p-Nitroaniline, Benzene, 4-nitro- | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P078 | Nitrogen dioxide, Nitrogen oxide NO ₂ | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P081 | 1,2,3-Propanetriol, Trialkane, Nitroglycerin | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P082 | N-Nitrosodimethylamine, Methoxyamine, Nitrosyl-N-nitroso- | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P084 | N-Nitrosodimethylamine, N-nitrosodimethylamine, N-nitrosodimethylamine | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P085 | Diphosphoric acid, octamethyl-, Octamethylpyrophosphate | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P087 | Cyanide salts CuO ₂ , (T-4)-, Cyanide cyanide | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P088 | Butadiene, 2-methyl-2,3-dicyanobut-2-ene, 2,3-dicyanobut-2-ene | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P089 | Phosphoric acid, O,O'-dimethyl O-(4-methylphenyl) ester, Phosphine | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P092 | Phosphoric acid, Methyl-, (acetoxy)-dimethyl- | Q, 120 | T | D60, T01, S01, S02, T02 | |
| P093 | Thiourea, phosph-, Phosphothiourea | Q, 120 | T | D60, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| P004 | Phosphorothioic acid, O,O-dimethyl-S-[(methylthio)methyl] ester; Phosmus | 42,120 | T | D40, T01, S01, S02, T02 | |
| P005 | Phosgene, Carbonyl dichloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| P006 | Phosphine, Hydrogen phosphide | 42,120 | T | D40, T01, S01, S02, T02 | |
| P007 | Phosphorus, Phosphorothioic acid, O-[4-[(dimethyl-amino)methyl]phenyl] O,O-dimethyl ester | 42,120 | T | D40, T01, S01, S02, T02 | |
| P008 | Potassium cyanide, Potassium cyanide KCN | 42,120 | T | D40, T01, S01, S02, T02 | |
| P009 | Potassium silver cyanide, Argentocyanide, KAg(CN) ₂ , potassium | 42,120 | T | D40, T01, S01, S02, T02 | |
| P101 | Red oil cyanide, Propionitrile | 42,120 | T | D40, T01, S01, S02, T02 | |
| P102 | Resorcinol alcohol, 2-Pyrogallol-1-ol | 42,120 | T | D40, T01, S01, S02, T02 | |
| P103 | Selenic acid | 42,120 | T | D40, T01, S01, S02, T02 | |
| P104 | Silver cyanide Ag(CN), Silver cyanide | 42,120 | T | D40, T01, S01, S02, T02 | |
| P105 | Sodium azide | 42,120 | T | D40, T01, S01, S02, T02 | |
| P106 | Sodium cyanide, Sodium cyanide Na(CN) | 42,120 | T | D40, T01, S01, S02, T02 | |
| P108 | Strychnine-10-ene, 8-ene, Strychnine, 8-ene | 42,120 | T | D40, T01, S01, S02, T02 | |
| P109 | Thiophosphoric acid, isopropyl ester, Tripropylthiophosphorothioic acid | 42,120 | T | D40, T01, S01, S02, T02 | |
| P110 | Phosphorus, triethyl-, Triethylphosphine | 42,120 | T | D40, T01, S01, S02, T02 | |
| P111 | Triethyl phosphorothioic acid, triethylphosphorothioic acid | 42,120 | T | D40, T01, S01, S02, T02 | |
| P112 | Tetraethylenesulfone, Tetraethylenesulfone | 42,120 | T | D40, T01, S01, S02, T02 | |
| P113 | Thiolic acid, Thiocyanic acid, Thiocyanic acid | 42,120 | T | D40, T01, S01, S02, T02 | |
| P114 | Thiophosphoric acid, diisopropyl ester, Triisopropyl phosphorothioic acid | 42,120 | T | D40, T01, S01, S02, T02 | |
| P115 | Thiophosphoric acid, diisopropyl ester, Triisopropyl phosphorothioic acid | 42,120 | T | D40, T01, S01, S02, T02 | |
| P116 | Thiophosphoric acid, diisopropyl ester, Triisopropyl phosphorothioic acid | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| SWA CODES | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|-----------|--|------------------------------------|-----------------|-------------------------|---------------------|
| P118 | Methanol, ethylene, Trichloroethylene | 43,120 | T | D40, T01, S01, S02, T02 | |
| P119 | Vanadic acid, ammonium salt, Ammonium vanadate | 43,120 | T | D40, T01, S01, S02, T02 | |
| P120 | Vanadium oxide V_2O_5 , Vanadium pentoxide | 43,120 | T | D40, T01, S01, S02, T02 | |
| P121 | Zinc cyanide $Zn(CN)_2$, Zinc cyanide | 43,120 | T | D40, T01, S01, S02, T02 | |
| P122 | Zinc phosphide Zn_3P_2 when present at concentrations greater than 10% | 43,120 | T | D40, T01, S01, S02, T02 | |
| P123 | Toxaphene | 43,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| WPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| U001 | [1,1'-Biphenyl]-4,4'-diamine, Benzidine | 42,120 | T | D40, T01, S01, S02, T02 | |
| U002 | Benzaldehyde | 42,120 | T | D40, T01, S01, S02, T02 | |
| U003 | Benzonitrile, Benzonitrile (6-chlorobenzonitrile) | 42,120 | T | D40, T01, S01, S02, T02 | |
| U004 | Dichloromethane, Ethane, 1,1'-[methylenebis(methylene)]bis(2-chloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U005 | Ethane, 1,1'-methylenebis(2-chloro-), Dichloromethyl ether | 42,120 | T | D40, T01, S01, S02, T02 | |
| U006 | Chlorophenol, Naphthalene, N,N'-bis(2-chloromethyl)- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U007 | Dichloromethyl ether, Propane, 2,2'-methylenebis(2-chloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U008 | 1,2-Bis(methylenebis(2-chloro-))bis(2-chloromethyl) ether, Dichloromethyl phthalate | 42,120 | T | D40, T01, S01, S02, T02 | |
| U009 | Methanol, Isopropanol, Methyl bromide | 42,120 | T | D40, T01, S01, S02, T02 | |
| U010 | Benzene, 1,2,3,4-tetrahydro-4-benzopyran, 4-benzopyran, phenyl ether | 42,120 | T | D40, T01, S01, S02, T02 | |
| U011 | n-Butyl alcohol, 1-butanol | 42,120 | T | D40, T01, S01, S02, T02 | |
| U012 | Calcium chromate, Chromic acid H ₂ CrO ₄ , calcium salt | 42,120 | T | D40, T01, S01, S02, T02 | |
| U013 | Carbon tetrachloride, Carbonic chloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U014 | Calcium, Acetaminophen, n-chloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U015 | Chlorobenzene, Benzene, 4-chlorobenzene, 4-bis(2-chloromethyl)benzene | 42,120 | T | D40, T01, S01, S02, T02 | |
| U016 | Chlorobenzene, 4-chlorobenzene, 4,7-Methylenebis(2-chlorobenzene), 1,2,4,5,6,7,8-octachloro-2,3,5,6-tetrahydro-1,4-benzodioxane | 42,120 | T | D40, T01, S01, S02, T02 | |
| U017 | Benzene, chloro-, Chlorobenzene | 42,120 | T | D40, T01, S01, S02, T02 | |
| U018 | Chlorobenzene, Benzene, 4-chlorobenzene, 4-chlorobenzene, 4-chlorobenzene, 4-chlorobenzene | 42,120 | T | D40, T01, S01, S02, T02 | |
| U019 | p-Chloro-aniline, Phenol, 4-chloro-3-methyl- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U021 | Epichlorohydrin, Chlorine, (chloromethyl)- | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED AMOUNT OF WASTE | DATE OF MEASUREMENT | PROCESS CODES | PROCESS DESCRIPTION |
|----------|--|---------------------------|---------------------|-------------------------|---------------------|
| U002 | Isobutene, 2-chloroethoxy-, 2-chloroethyl vinyl ether | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U003 | Isobutene, chloro-, Vinyl chloride | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U004 | Chlorobenzene, Methanol, Trichloro- | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U005 | Methanol, chloro-, Methyl chloride | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U006 | Chloroethyl methyl ether, Methanol, chloroethoxy- | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U007 | Isobutene, Chloroethoxy-, Naphthalene, 2-chloro- | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U008 | o-Chlorophenol, Phenol, 2-chloro- | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U009 | 4-Chloro-4-nitrophenol, Hydrochloric acid, 4-chloro-3-methyl-, Hydrochloric acid | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U010 | Chloroform | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U011 | Chloroform | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U012 | Chloroform (Chloroform), Phenol, methyl- | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U013 | Chloroform, 2-methyl- | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U014 | Phenol, (1-methyl)ethoxy-, Chloroform | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U015 | Cyclohexanone, Phenol, methyl- | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U016 | Cyclohexanone, Phenol, methyl- | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U017 | Cyclohexanone | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U018 | Cyclohexanone, 2,4,6-trichlorophenyl-2-amine, N,N-bis(2-chloroethyl) methoxy-, 2-oxide | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U019 | 5,12-Naphthoquinone, 2-oxo-10- (1-oxo-2,3,6-trimethyl-4-oxo-1,4-dihydro-2H-pyran-2-yl)-, 3,3,10-trimethyl-4,8,11-trimethoxy-1-methoxy-, (R,R)-, (S,S)-, Diastereoisomers | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U020 | Dioxin, Benzene, 1,1'-di-2,2-dichloroethoxy/dioxin [4-chloro- | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U021 | Dioxin, Benzene, 1,1'-di-2,2-dichloroethoxy/dioxin [4-chloro- | Q, 120 | T | D00, T01, S01, S02, T02 | |
| U022 | Dioxin, Cyclohexanone, 2,4,6-trichlorophenyl-2-amine, N,N-bis(2-chloroethyl) methoxy-, 2-oxide | Q, 120 | T | D00, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| U063 | Dioxin/Aroclor | 42,120 | T | D40, T01, S01, S02, T02 | |
| U064 | Benzofluoranthene, Fluoranthene | 42,120 | T | D40, T01, S01, S02, T02 | |
| U065 | 1,2-Dichloro-3-chlorophenyl, Propane, 1,2-dichloro-3-chloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U066 | Benzene, 1,2-dichloro-, Benzene, 1,2-dichloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U067 | Methane, chloro-, Methane, chloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U068 | Dibenzyl phosphine, 1,2-bis(methylphosphoryl) ethane, dibenzyl ester | 42,120 | T | D40, T01, S01, S02, T02 | |
| U069 | 6-Dichlorocyclohexane, Benzene, 1,2-dichloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U070 | 1,2-Dichloroethane, Benzene, 1,2-dichloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U071 | 1,2-Dichloroethane, Benzene, 1,2-dichloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U072 | Benzene, 1,4-dichloro-, p-Dichlorobenzene | 42,120 | T | D40, T01, S01, S02, T02 | |
| U073 | 3,3'-Dichlorodiphenyl, 1,1'-Bis(2,4,6-trichlorophenyl) ethane, 3,3'-dichloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U074 | 1,4-Dichlorobenzene, 2-benzene, 1,4-dichloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U075 | Methane, dichloroethane-, Dichloroethane | 42,120 | T | D40, T01, S01, S02, T02 | |
| U076 | Benzene, dichloro-, Benzene, 1,1-dichloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U077 | Benzene, dichloro-, Benzene, 1,2-dichloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U078 | 1,1-Dichloroethane, Benzene, 1,1-dichloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U079 | 1,2-Dichloroethane, Benzene, 1,2-dichloro-, (R) | 42,120 | T | D40, T01, S01, S02, T02 | |
| U080 | Methane, dichloro-, Methane, chloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U081 | 2,4-Dichlorophenyl, Phenol, 2,4-dichloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U082 | 2,6-Dichlorophenyl, Phenol, 2,6-dichloro- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U083 | Propane, 1,2-dichloro-, Propylene dichloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U084 | 1,3-Dichloropropane, 1-Propane, 1,3-dichloro- | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| HAZ CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| U008 | 1,4-Dioxane, 1,4-Dichlorobenzene | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U009 | 1,2-Dichloroethane, Hydrocarbons, 1,2-Dibromochloroethane | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U010 | Dibromofluorides, 1,2-Dibromodichloroethane, N-propyl | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U011 | Di-n-propylamine, 1-Propenamine, N-butyl-N-propyl | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U012 | Acetic acid ethyl ester, Ethyl acetate | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U013 | Ethyl acetate, 2-Propenoic acid, ethyl ester | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U014 | Ethylacetate, 2-Propenoic acid, ethyl ester, Carbonic acid, 1,2-ethanedithiol, salts & esters | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U015 | Ethylene oxide, Oxidant | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U016 | Ethylacetate, 2-Propenoic acid, ethyl ester | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U017 | Ethyl acetate, Ethanol, 1,1'-oxybis | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U018 | Ethyl acetate, 2-Propenoic acid, 2-methyl-, ethyl ester | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U019 | Ethyl acetate, 2-Propenoic acid, 2-methyl-, ethyl ester | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U020 | Formaldehyde | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U021 | Malonic, trichloro-, Trichloromethylmethane | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U022 | Monochloro | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U023 | Formic acid | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U024 | Perfluoro, Penta | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U025 | 2,4-Dichloropentadiene, Perfluoro | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U026 | Chloroethylene, Octamethylcyclotrisiloxane | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U027 | Butene, Isobutene, Hexamethylcyclotrisiloxane | Q, 120 | T | D40, T01, S01, S02, T02 | |
| U028 | 1,3-Butadiene, 1,1,2,3,4,4-hexachloro-, Hexachlorocyclopentadiene | Q, 120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTICS OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|--|------------------------------------|-----------------|-------------------------|---------------------|
| U150 | Methylol, L-Phenylmethane, 4-Dimethylamino-2-methyl- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U151 | Mercury | 42,120 | T | D40, T01, S01, S02, T02 | |
| U152 | Methoxyphenyl, 2-Propenyl-, 3-methyl- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U153 | Methoxyphenyl, 2-Propenyl-, 3-methyl- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U154 | Methyl alcohol, Methylol | 42,120 | T | D40, T01, S01, S02, T02 | |
| U155 | Methoxyphenyl, 1,2-Ethanedithiol, N,N-dimethyl-N'-2-pyridyl-N'-2'-thio-2-methyl- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U156 | Methyl chloroformate, Carbonylchloride acid, methyl ester | 42,120 | T | D40, T01, S01, S02, T02 | |
| U157 | 5-Methyl-2-thiophenyl-, 2-methyl-2-thiophenyl-, 1,2-dithio-3-methyl- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U158 | 4,4'-Methylenbis(2-chlorophenyl), Benzene, 4,4'-methylenebis(2-chloro-) | 42,120 | T | D40, T01, S01, S02, T02 | |
| U159 | Methyl ethyl ketone (MEK), 2-Propanol | 42,120 | T | D40, T01, S01, S02, T02 | |
| U160 | 2-Propanol, peroxide, Methyl ethyl ketone peroxide | 42,120 | T | D40, T01, S01, S02, T02 | |
| U161 | 4-Methyl-2-propanone, Methyl isobutyl ketone, Propanol, 4-methyl- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U162 | Methyl methacrylate, 2-Propenoic acid, 2-methyl-, methyl ester | 42,120 | T | D40, T01, S01, S02, T02 | |
| U163 | MUNDO, Guadine, N-methyl-N'-methyl-N'-methyl- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U164 | Methylmethacrylate, (1H)Pyridine, 2,3-dihydro-6-methyl-2-thio- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U165 | Naphthalene | 42,120 | T | D40, T01, S01, S02, T02 | |
| U166 | 1,5-Naphthalenediol, 1,4-Naphthalenediol | 42,120 | T | D40, T01, S01, S02, T02 | |
| U167 | 1-Naphthylmethanol, 2-Naphthylmethanol | 42,120 | T | D40, T01, S01, S02, T02 | |
| U168 | 1-Naphthylmethanol, 2-Naphthylmethanol | 42,120 | T | D40, T01, S01, S02, T02 | |
| U169 | Methoxyphenyl, Benzene, ethyl- | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| UFA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | TYPE OF MATERIAL | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|------------------|-------------------------|---------------------|
| U170 | p-Nitrophenol, Phenol, 4-mer | 42,120 | T | D40, T01, S01, S02, T02 | |
| U171 | Propene, 2-mer, 2-Nitropropene | 42,120 | T | D40, T01, S01, S02, T02 | |
| U172 | 1-Fluoromethyl, N-methyl-N-ethoxy, N-Nitroethyl-methylamine | 42,120 | T | D40, T01, S01, S02, T02 | |
| U173 | Phenol, 2,3'-dimethoxyphenyl, N-Nitrodimethylamine | 42,120 | T | D40, T01, S01, S02, T02 | |
| U174 | Phenol, 2-mer, N-ethyl-N-ethoxy, N-Nitrodimethylamine | 42,120 | T | D40, T01, S01, S02, T02 | |
| U175 | N-Nitro-N-ethylamine, Urea, N-ethyl-N-phenyl | 42,120 | T | D40, T01, S01, S02, T02 | |
| U176 | Urea, N-ethyl-N-ethoxy, N-Nitro-N-methylamine | 42,120 | T | D40, T01, S01, S02, T02 | |
| U177 | Carbonic acid, methylamine, ethylamine, N-Nitro-N-methylamine | 42,120 | T | D40, T01, S01, S02, T02 | |
| U178 | N-Nitrodimethylamine, Pyridine, 1-mer | 42,120 | T | D40, T01, S01, S02, T02 | |
| U179 | N-Nitrodimethylamine, Pyridine, 1-mer | 42,120 | T | D40, T01, S01, S02, T02 | |
| U180 | N-Nitrodimethylamine, Pyridine, 1-mer | 42,120 | T | D40, T01, S01, S02, T02 | |
| U181 | N-Nitrodimethylamine, Pyridine, 1-mer | 42,120 | T | D40, T01, S01, S02, T02 | |
| U182 | N-Nitrodimethylamine, Pyridine, 1-mer | 42,120 | T | D40, T01, S01, S02, T02 | |
| U183 | N-Nitrodimethylamine, Pyridine, 1-mer | 42,120 | T | D40, T01, S01, S02, T02 | |
| U184 | N-Nitrodimethylamine, Pyridine, 1-mer | 42,120 | T | D40, T01, S01, S02, T02 | |
| U185 | N-Nitrodimethylamine, Pyridine, 1-mer | 42,120 | T | D40, T01, S01, S02, T02 | |
| U186 | N-Nitrodimethylamine, Pyridine, 1-mer | 42,120 | T | D40, T01, S01, S02, T02 | |
| U187 | N-Nitrodimethylamine, Pyridine, 1-mer | 42,120 | T | D40, T01, S01, S02, T02 | |
| U188 | N-Nitrodimethylamine, Pyridine, 1-mer | 42,120 | T | D40, T01, S01, S02, T02 | |
| U189 | N-Nitrodimethylamine, Pyridine, 1-mer | 42,120 | T | D40, T01, S01, S02, T02 | |
| U190 | N-Nitrodimethylamine, Pyridine, 1-mer | 42,120 | T | D40, T01, S01, S02, T02 | |
| U191 | N-Nitrodimethylamine, Pyridine, 1-mer | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED AVERAGE QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|-------------------------------------|-----------------|-------------------------|---------------------|
| U192 | Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propenyl)-, potassium | 42,120 | T | D40, T01, S01, S02, T02 | |
| U193 | 1,2-Dichloroethane, 2,2-dichloro, 1,3-propanediol | 42,120 | T | D40, T01, S01, S02, T02 | |
| U194 | n-Propylamine, 1-propanediol | 42,120 | T | D40, T01, S01, S02, T02 | |
| U196 | Pyridine | 42,120 | T | D40, T01, S01, S02, T02 | |
| U197 | 2,5-Cyclohexanedione-1,4-dione, p-benzoquinone | 42,120 | T | D40, T01, S01, S02, T02 | |
| U200 | Resorcinol, 1,6-naphthylidene, 1,1,17-dimethyl-16-[(3,4,5-trimethoxyphenyl)oxy]-, methyl ester, (20- n. 11000, 17000, 18000, 19000) | 42,120 | T | D40, T01, S01, S02, T02 | |
| U201 | 1,3-Benzenediol, Resorcinol | 42,120 | T | D40, T01, S01, S02, T02 | |
| U202 | 1,2-Benzenediol-3,210-ene, 1,1-dichloro, 2,100, 2,100, 2,100 | 42,120 | T | D40, T01, S01, S02, T02 | |
| U203 | 1,3-Benzenediol, 5-O-propenyl-, 2,100 | 42,120 | T | D40, T01, S01, S02, T02 | |
| U204 | Benzoic acid, 2,100 | 42,120 | T | D40, T01, S01, S02, T02 | |
| U205 | Benzoic acid, 2,100 | 42,120 | T | D40, T01, S01, S02, T02 | |
| U206 | D-Glucose, 2-deoxy-2-(1-methyl-2-naphthyl)-, 2,100 | 42,120 | T | D40, T01, S01, S02, T02 | |
| U207 | Benzoic acid, 2,100 | 42,120 | T | D40, T01, S01, S02, T02 | |
| U208 | Benzoic acid, 2,100 | 42,120 | T | D40, T01, S01, S02, T02 | |
| U209 | Benzoic acid, 2,100 | 42,120 | T | D40, T01, S01, S02, T02 | |
| U210 | Benzoic acid, 2,100 | 42,120 | T | D40, T01, S01, S02, T02 | |
| U211 | Benzoic acid, 2,100 | 42,120 | T | D40, T01, S01, S02, T02 | |
| U212 | Benzoic acid, 2,100 | 42,120 | T | D40, T01, S01, S02, T02 | |
| U213 | Benzoic acid, 2,100 | 42,120 | T | D40, T01, S01, S02, T02 | |
| U214 | Benzoic acid, 2,100 | 42,120 | T | D40, T01, S01, S02, T02 | |
| U215 | Benzoic acid, 2,100 | 42,120 | T | D40, T01, S01, S02, T02 | |

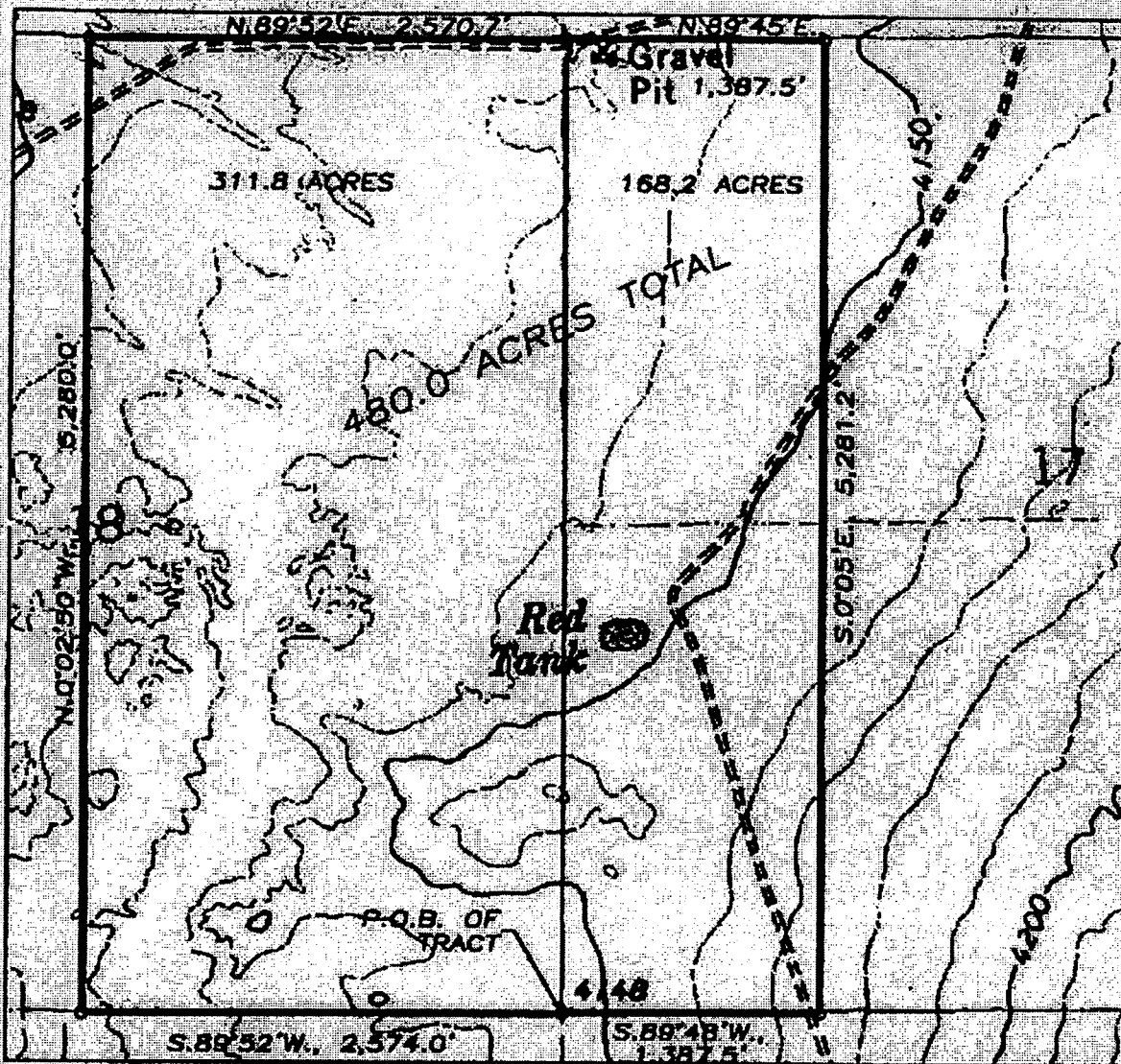
XIV DESCRIPTION OF HAZARDOUS WASTES

| WHA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED AMOUNT OR QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|---------------------------------------|-----------------|-------------------------|---------------------|
| U216 | Thallium(I) chloride, Thallium chloride, TlCl | 42,120 | T | D40, T01, S01, S02, T02 | |
| U217 | Maleic acid, Butyltin(1,4) salt, Thallium(I) nitrate | 42,120 | T | D40, T01, S01, S02, T02 | |
| U218 | Dibenzothiazole, Thioacetamide | 42,120 | T | D40, T01, S01, S02, T02 | |
| U219 | Thiourea | 42,120 | T | D40, T01, S01, S02, T02 | |
| U220 | Butene, methyl, Toluene | 42,120 | T | D40, T01, S01, S02, T02 | |
| U221 | Benzenethiol, acetylide, Thioacetamide | 42,120 | T | D40, T01, S01, S02, T02 | |
| U222 | Benzenesulfonamide, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U223 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U224 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U225 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U226 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U227 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U228 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U229 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U230 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U231 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U232 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U233 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U234 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U235 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U236 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U237 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U238 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U239 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U240 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |
| U241 | Benzoic acid, 2-methyl-, hydrochloride, 6-Toluidine hydrochloride | 42,120 | T | D40, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | TYPE OF MATERIAL | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|------------------|-------------------------|---------------------|
| U244 | Thiopyranthene dioxides (0.1-0.15)%, hexamethyl-, Thionin | 42,120 | T | D40, T01, S01, S02, T02 | |
| U246 | Cyanogen bromide (20)%, | 42,120 | T | D40, T01, S01, S02, T02 | |
| U247 | Methoxychlor, Benzene, 1,1'-O,2,2'-bis(methoxychlor)bis (4-methoxy- | 42,120 | T | D40, T01, S01, S02, T02 | |
| U248 | 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations of 0.3% or less; Warfarin, & salts, when present at concentrations of 0.3% or less | 42,120 | T | D40, T01, S01, S02, T02 | |
| U249 | Zinc phosphide, Zn ₃ P ₂ , when present at concentrations of 10% or less | 42,120 | T | D40, T01, S01, S02, T02 | |
| U328 | Benzenesulfonate, 2-methyl-, o-Toluidine | 42,120 | T | D40, T01, S01, S02, T02 | |
| U333 | Benzenesulfonate, 4-methyl-, p-Toluidine | 42,120 | T | D40, T01, S01, S02, T02 | |
| U359 | Bisphenol (p-phenylene) ether, Bisphenol, 2-ethyl- | 42,120 | T | D40, T01, S01, S02, T02 | |

SECTIONS 17 & 18, TOWNSHIP 11 SOUTH, RANGE 31 EAST, NMPM, CHAVES COUNTY, NEW MEXICO.



DESCRIPTION:

A 480.0 ACRE TRACT OF LAND LOCATED IN SECTIONS 17 & 18, TOWNSHIP 11 SOUTH, RANGE 31 EAST, NMPM, CHAVES COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE POINT OF BEGINNING OF SAID TRACT A POINT BEING THE SOUTH COMMON CORNER BETWEEN SAID SECTION 17 & 18 (SOUTHEAST CORNER OF SAID SECTION 18 AND THE SOUTHWEST CORNER OF SAID SECTION 17); THENCE S.89°52'W., 2,574.0 FEET ALONG THE SOUTH SECTION LINE OF SAID SECTION 18; THENCE N.0°02'50'W., 5,280.0 FEET TO THE NORTH SECTION LINE OF SECTION 18; THENCE N.89°52'E., 2,570.7 FEET, ALONG THE NORTH SECTION LINE OF SECTION 18 TO THE NORTH COMMON CORNER BETWEEN SAID SECTIONS 17 & 18; THENCE N.89°45'E., 1,387.5 FEET ALONG THE NORTH SECTION LINE OF SECTION 17; THENCE S.0°05'E., 5,281.2 FEET TO THE SOUTH SECTION LINE OF SECTION 17; THENCE S.89°48'W., 1,387.5 FEET ALONG THE SOUTH SECTION LINE OF SECTION 17, BACK TO THE POINT OF BEGINNING OF SAID TRACT, DESCRIBING 480.0 ACRES, MORE OR LESS.

1000' 0 1000' 2000'

Scale 1" = 50'

THE PREPARATION OF THIS PLAN AND THE PERFORMANCE OF THE SURVEY UPON WHICH IT IS BASED WERE DONE UNDER MY DIRECTION AND I HEREBY ACCORDINGLY CERTIFY THE RESULTS OF SAID SURVEY AND CERTIFY THE ACCURACY OF THE STANDARDS FOR LAND SURVEYS IN NEW MEXICO AS ADOPTED BY THE NEW MEXICO STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS.

3840
NEW MEXICO ENGINEERS & LAND SURVEYORS
No. 3840

GANDY - MARLEY INC.

A 480.0 ACRE TRACT OF LAND LOCATED IN SECTIONS 17 & 18, TOWNSHIP 11 SOUTH, RANGE 31 EAST, NMPM, CHAVES COUNTY, NEW MEXICO.

Survey Date: 7/20/2000

Drawn By: Ed. Becken

Date: 7/22/00

Sheet 1 of 1

REA Number:

Scale 1" = 1000' GANDY

GENERAL SURVEYING COMPANY P.O. BOX 1928
LOVINGTON, NEW MEXICO 88260

TRANSMITTAL



MONTGOMERY WATSON

Date: June 11, 1999

Montgomery Watson
P.O. Box 774018
1475 Pine Grove Road
Steamboat Springs, CO 80477

Tel: 970 879 6260

Fax: 970 879 9048

To: Greg Starkebaum
TechLaw Inc.

From: Patrick Corser
Montgomery Watson

The following items are enclosed:

| No. of Copies | Description |
|---|---|
| 1 | Preliminary Draft of Gandy Marley, Inc. Response to Request for Supplemental Information - May 1999 |
| <p>Greg,</p> <p>Stephanie Kruse (NMED) requested that I forward a copy of this to you. This is a preliminary draft of our response to comments. The response to TechLaw questions are the same as what I forwarded to you previously. If you have any questions that I can help with, please feel free to give me a call.</p> <p>Regards,</p> <p>Pat</p> <p>cc: S. Kruse, NMED w/o attachments D. Gandy w/o attachments</p> | |

This data is submitted:

- ☐ At your request
- ☐ For your approval
- ☒ For your review

- ☐ For your action

FILE - Job Number: 602

- ☐ For your files
- ☐ For your information
- ☐ Outgoing Correspondence
 - ☐ Incoming Correspondence
 - ☐ Internal Correspondence
 - ☐ Meeting Notes
 - ☐ Calculations
 - ☐ Working Notes
 - ☐ Laboratory Data
 - ☐ Field Data
 - ☐ Drawings
 - ☐ Reports

TRIASSIC PARK WASTE DISPOSAL FACILITY

Gandy Marley, Inc.
Tatum, New Mexico

REQUEST FOR SUPPLEMENTAL INFORMATION
TRIASSIC PARK PERMIT APPLICATION

May 1999

RCRA Permits Management Program, Hazardous and Radioactive Materials Bureau (RPMP/HRMB) staff of the New Mexico Environment Department have reviewed the Triassic Park Hazardous Waste Management Disposal Facility (the Facility) Permit application submitted in December 1997 (Vols. I and III revised in November 1998). In a letter dated March 11, 1999, the RPMP/HRMB provided a request for supplemental information in a series of questions prepared by RPMP/HRMBN and their subcontractor Techlaw.

This document provides a response to each comment. The format includes a presentation of the original comment as submitted by RPMP/HRMB. Text presented "in bold" is taken directly from the text of the Facility Permit Application. The response follows each question and is presented in *italics*.

GENERAL COMMENTS

Comment 1.

The stabilized waste portion of the Roll-Off Container Storage Area must be addressed in the Permit application as a regulated unit under the proposed RCRA Permit.

Response: The stabilized waste portion of the Roll-Off Container Storage area will be added to the permit as a permitted unit. The necessary changes will be made to incorporate the area into the permit application.

Comment 2.

The Truck Wash Area must be addressed in the Permit application as a regulated unit under the proposed RCRA Permit.

Response: The Truck Wash Area will generate derived waste and therefore, is not subject to the RCRA permitting requirements. All potential waste generated in this area will be tested and subject to the 90 day storage limitation. The area is shown in the Waste Analysis Plan as a potential generator site for site generated waste (NMED concurrence 5/4/99).

Comment 3.

The Permit application, Vol. I, Section 3.7, *Groundwater Protection Requirements*, p. 3-25, regarding groundwater protection requirements is currently incomplete. The application suggests a separate submittal would follow requesting the substitution of vadose zone monitoring for groundwater monitoring. A draft letter from Gandy Marley's contractor dated November 9, 1998 proposes a groundwater monitoring equivalency demonstration (GMED) to justify vadose zone monitoring.

The November 9, 1998 letter correctly states that the Secretary of the New Mexico Environment Department (NMED) can waive groundwater monitoring requirements if there is concurrence that there is no potential for migration of liquid from the regulated unit to the uppermost aquifer. NMED must withhold making this concurrence decision until a complete application, with all questions answered (see Comments No. 23 through No. 33 and Comments No. 75 and No. 76), is provided. Furthermore, NMED reserves the authority to

Response: The bullet is correct, the facility will not accept liquid wastes containing > 50ppm PCBs. The reviewer is referred to 40 CFR 268.42(a)(1) which states, "Liquid hazardous wastes containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 50 ppm but less than 500 ppm must be incinerated in accordance with the technical requirements of 40 CFR 761.70 or burned in high efficiency boilers in accordance with the technical requirements of 40 CFR 761.60." Other PCB media contaminated at concentrations above 50 ppm will be accepted at the facility. These media include non-liquid waste (i.e., rags, debris, etc) and sludges which meet the facility requirements for free liquids and defined in 40 CFR 761.60(a)(5) and PCB contaminated articles as defined in 40 CFR 761.60(b) as being acceptable for a permitted landfill.

- c. 2nd paragraph. The wastes which will be accepted for placement in the landfill include all wastes listed in Part A of this application...

This section does not really address the nature and quantity of waste to be received from off-site generators. Part A does not provide a lot of information, since it seems to have been prepared to cover all eventualities regarding the possible quantity for each hazardous waste constituent. RPMP realizes that the nature and quantity of waste accepted from off-site generators cannot be precisely specified, but would appreciate available estimates and information Gandy Marley may have on the probable kinds and quantities of hazardous waste to be received.

Response: The initial estimates of waste inflow to size the first phase was based on approximately 15,000 cy per month. This turns out to be 180,000 cy per year. Phase 1A of the landfill has a waste capacity of 553,232 (Table 3, Page 3-20, Volume III). Therefore, the first phase would have capacity for approximately 3-yrs of waste placement.

Recommended Changes: None.

- d. The landfill will have...a capacity of approximately 10 million cubic yards of waste.

Response: See Comment 4a.

Comment 17.

Section 2.5.1.7, *Wind Dispersal Control Procedures*, p. 2-17. Wind dispersal control will consist of a daily soil cover obtained from excavation. Typically, the daily cover will consist of soil spread on top of the waste placement area to a depth of 0.2-foot to 0.5-foot.

The daily cover should be 6 inches at a minimum. The daily cover must cover all disposed waste.

Response: There is no regulatory requirement for minimum daily cover thickness. However, GMI will modify the minimum cover thickness to 0.5 feet.

Recommended Changes: Minimum cover thickness will be 0.5 feet.

Comment 18.

Section 2.5.1.8, *Gas Generation Management*, p. 2-18.

- a. 2nd paragraph. ...periodic checks will be made within the landfill to detect the presence of hazardous gases and volatile organics. Surveys of the active



GARY E. JOHNSON
GOVERNOR

June 10, 1999

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous & Radioactive Materials Bureau
2044 Galisteo Street
P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-1557
Fax (505) 827-1544



PETER MAGGIORE
SECRETARY

Mr. Larry Gandy
Vice President
Triassic Park Waste Disposal Facility
1109 E. Broadway
Tatum, New Mexico 88267

Re: Comments: Draft Responses to Request for Supplemental Information

Dear Mr. Gandy:

Enclosed please find comments prepared by Hazardous and Radioactive Materials Bureau (HRMB) staff on the Gandy Marley, Inc. (GMI) Draft Responses to our Request for Supplemental Information. These Draft Responses were submitted on May 25, 1999.

I believe that we have now reached agreement on several items, although some important issues remain to be discussed prior to finalizing the permit application. At this point, I suggest that a working meeting in Santa Fe to clarify and/or resolve remaining issues would be beneficial for both HRMB and GMI.

Please call Stephanie Kruse of my staff at 505/827-1558 ext. 1024 if you have any questions or comments.

Sincerely,

James P. Bearzi, Chief
Hazardous and Radioactive Materials Bureau

Enclosure

| | |
|--------------------------------------|----------------------------|
| cc: Gregory J. Lewis, NMED/WWMD | Kenneth Schultz, GMI |
| Robert S. (Stu) Dinwiddie, NMED/HRMB | Pat Corser, MW |
| Stephanie Kruse, NMED/HRMB | Trey Greenwood, Delhart |
| Dale Gandy, GMI | Jim Bonner, InfiMedia Inc. |

HAZARDOUS AND RADIOACTIVE MATERIALS BUREAU COMMENTS
on
DRAFT RESPONSES: REQUEST FOR SUPPLEMENTAL INFORMATION
submitted May 1999

The Hazardous and Radioactive Materials Bureau (HRMB) has reviewed the Gandy Marley, Inc. (GMI) draft responses to the Request for Supplemental Information issued March 11, 1999. HRMB comments are presented below.

In many cases, the GMI draft responses indicate general agreement with the HRMB RSI comment, and add that appropriate information will be added to the permit application. Without seeing the specifics of the information to be added to the permit application, HRMB's concurrence with the GMI draft responses must remain preliminary.

HRMB staff will be glad to discuss their comments on the GMI draft responses with GMI personnel. HRMB recommends a meeting, to be held in Santa Fe, between HRMB and GMI personnel to clarify and/or resolve other issues prior to finalizing the permit application.

Furthermore, based on the GMI draft response, HRMB will require, under separate cover, additional site characterization to enable processing the groundwater monitoring equivalency demonstration and the facility siting proposal.

GENERAL COMMENTS

- | | |
|------------|--|
| Comment 1. | Response is acceptable, pending review of language added to the permit application. |
| Comment 2. | Response is acceptable. |
| Comment 3. | Mr. Steve Pullen (HRMB staff) is currently discussing the correct format for GMI's groundwater monitoring waiver proposal and other requirements for this proposal with GMI staff. |

SPECIFIC COMMENTS

VOLUME 1 - PART A

- | | | |
|------------|----|--|
| Comment 4. | a. | Response is acceptable, pending review of correction made in Part A of the permit application. |
|------------|----|--|

NMED/HRMB
Comments
June 10, 1999

Gandy Marley
Draft RSI responses
May 25, 1999

- b. Response is acceptable, pending review of corrections made in Vol. I, Part A, and in Vol. III of the permit application. (See GMI response to Comment 4.a.)
- c. Response is acceptable, pending review of corrections made in Part A of the permit application.

PART B

Section 1.0, General Facility Standards

Comment 5. No response necessary.

Comment 6. The response is acceptable. The New Mexico Environment Department (NMED) will write this into the permit as a Permit Condition.

Section 2.0, Treatment, Storage and Disposal

Comment 7. Response is acceptable.

Comment 8. a. The Response and Recommended Change are acceptable.

b. Response and Recommended Change are acceptable. Vol. III should also be corrected.

Comment 9. a. Response and Recommended Change are acceptable.

b. Response is acceptable, pending review of language added to the permit application.

c. Response and Recommended Change are acceptable.

Comment 10. a.-c. Response and Recommended Change are acceptable.

Comment 11. Response is acceptable pending review of corrections to drawings and text as per responses to Comment 11 and Comment D-2a(3). Note: According to response to Comment D-2a(3), piping will not be used to transfer waste from the liquid waste storage tanks to the stabilization bins; all transfer will be by tanker trucks.

Comment 12. a. Response is acceptable. (See response to Comment 11 - no piping

from tanks to stabilization bins.)

b.-c. HRMB staff would like to discuss piping further with GMI.

d. What is the "incompatible waste" referred to and how did it get in the Liquid Waste Storage Tanks? Where is the "incompatible waste" being transferred to? The response to Comment D-2a(3) indicates that no waste will be transferred through pipes. However, this response indicates that piping will be used for this purpose. HRMB staff would like to discuss piping further with GMI.

"...If the rinsate shows to be contaminated above acceptable levels...."
What are acceptable levels?

Is this sampling of the pipes discussed in the WAP? HRMB staff would like to discuss this further with GMI.

Comment 13. a.-b. HRMB would like to discuss this further with GMI.

Comment 14. However, the assessment of the compatibilities of the bin materials and waste, along with the influence of the process (materials, time, temperature, etc.) is not contained in Vol. III. Perhaps the sentence needs to be reworded.

More disturbing, GMI's RSI response indicates that, contrary to the statement, "Waste which is incompatible with the steel used in construction will not be stabilized in the bins", some of the wastes that will be stabilized may be reactive with the steel bins. HRMB recommends that GMI replace Section 2.4.1, p. 2-12, 1st paragraph, with the information presented in the response.

HRMB would like to discuss this paragraph further with GMI.

Comment 15. Response is acceptable, pending review of corrected text.

Comment 16. a. **CK PART A FOR LISTED EXPLOSIVE WASTE.**

b. The response is acceptable. NMED will include a requirement for

GMI to obtain a permit for disposal of this waste from the US Environmental Protection Agency as a Permit Condition in the permit.

- c. Response is acceptable.
- d. Response is acceptable. See Comment 4.a.

Comment 17. Response is acceptable.

- Comment 18.
- a. HRMB would like to discuss this paragraph further with GMI.
 - b. Response and Recommended Change are acceptable, pending review of language added to Section 8.0.

- Comment 19.
- a. HRMB would like to discuss this paragraph further with GMI.
 - b. Recommended change is acceptable.

Comment 20. Response and Recommended Change are acceptable, pending review of corrections to Vol. III to indicate that only one pond is being permitted.

Comment 21. HRMB would like to discuss this further with GMI.

Section 3.0, Groundwater Protection

Comment 22. Response is acceptable.

- Comment 23
- a. Response is acceptable.
 - b. Response is acceptable pending review of language added to the permit application. HRMB understands that all the italicized paragraphs within the May 1999, draft response on pages 12, 13 and 14 will be added to the application.
 - c. Response is acceptable pending review of language added to the permit application. Please add pertinent text to the application that would assist in interpreting geophysical log groundwater information.



GARY E. JOHNSON
GOVERNOR

ENVIRONMENT DEPARTMENT
Hazardous & Radioactive Materials Bureau
2044 Galisteo Street
P.O. Box 26110
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(505) 827-1557
Fax (505) 827-1544



PETER MAGGIORE
SECRETARY
PAUL R. RITZMA
DEPUTY SECRETARY

May 5, 2000

Mr. Ralph Davis
State Fire Marshal's Office
P.O. Box 1269
Santa Fe, New Mexico 87504

RE: PROPOSED HAZARDOUS WASTE LANDFILL

Dear Mr. Davis:

As we discussed by phone recently, I am enclosing some information regarding the proposed Triassic Park Hazardous Waste Landfill for your consideration:

Enclosure 1 consists of a site location map showing the location of the proposed Facility and information on land ownership in the area;

Enclosure 2 contains a list of the hazardous wastes which the Facility will be able to accept. It also contains information on wastes which will be prohibited;

Enclosure 3 shows the Facility layout. Planned operations consist of hazardous waste storage in containers (drums in the Drum Handling Building and roll-off containers on the Roll-Off Pad), treatment by evaporation in the Surface Impoundment and stabilization in four stabilization bins in the Stabilization Building, and final disposal in the Landfill. At present, on one two-celled surface impoundment and Phase IA of the Landfill will be permitted.

Other units include the truck wash unit, the maintenance shop, a chemical laboratory, the stormwater retention pond, the untarping, sampling, and weigh scales area, and the truck staging area;

Dimensions of the units which will be permitted under the Resource Conservation and Recovery Act (RCRA) are provided in Enclosure 4; and

Finally, available information on water supply and the Facility's proposal for emergency response in case of a fire are contained in Enclosure 5.

Mr. Ralph Davis
May 5, 2000
Page 2

The Hazardous and Radioactive Materials Bureau would appreciate your review of this information and information on any requirements your Office may have for the proposed Facility.

Thank you for your cooperation in this matter.

Sincerely,

A handwritten signature in cursive script that reads "Stephanie Kruse".

Stephanie Kruse, Project Manager
Triassic Park Permit

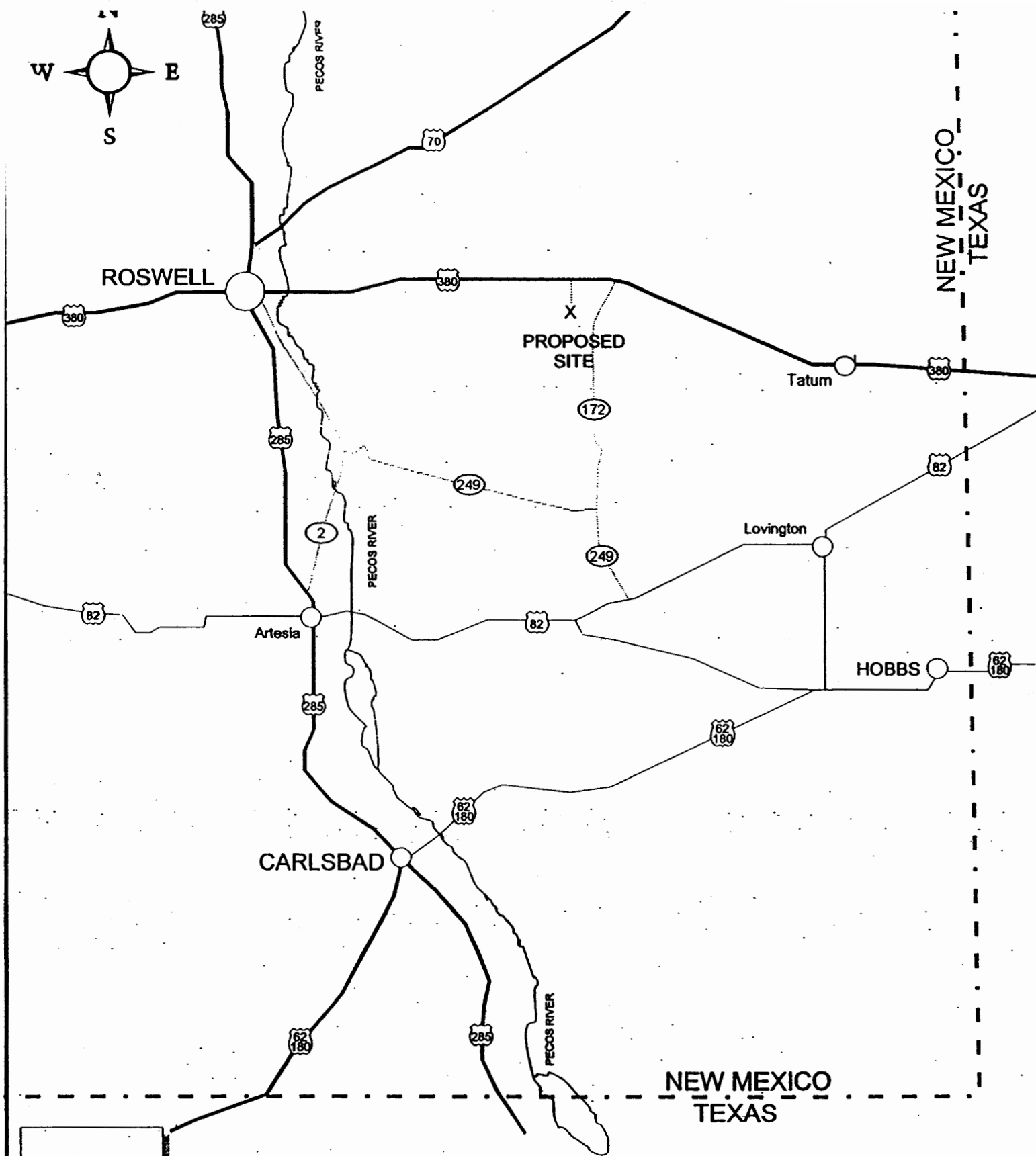
Enclosures (5)

cc (w/o enclosures):
James Bearzi, NMED/HRMB
John Kieling, NMED/HRMB

ENCLOSURE 1

New Mexico Environment Department
Hazardous and Radioactive Materials Bureau

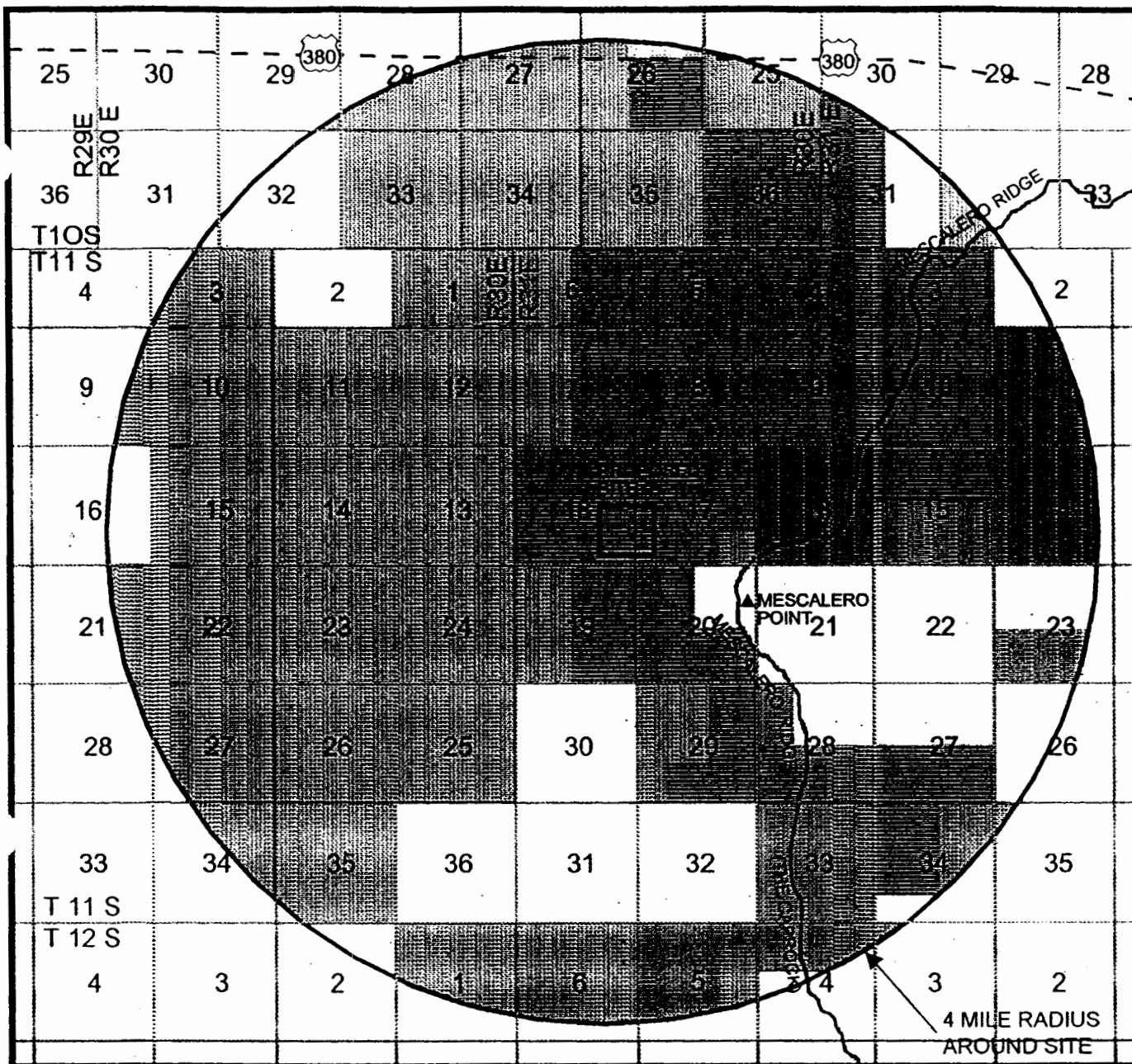
Letter: New Mexico State Fire Marshal's Office
May 5, 2000



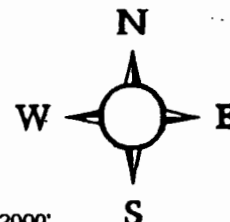
SITE LOCATION MAP

TRIASSIC PARK WASTE DISPOSAL FACILITY

Figure 1-2



- | | | | |
|--|--------------------------|--|---------------------------------|
| | United States of America | | Robert C. Marley |
| | Marley Raches, Ltd. | | Frank W. DeBorde |
| | McPeters, Rex Wayne | | Smith Revocable Trust |
| | Sand Ranch, Inc. | | Lea Cattle Co. Ltd. Partnership |
| | State of New Mexico | | Effie C. Wilson |
| | Jack Luce | | |



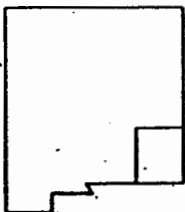
ONE INCH = 2000'

LAND OWNERSHIP WITHIN 4 MILE RADIUS

TRIASSIC PARK WASTE DISPOSAL FACILITY

Figure 1-1

| OWNER | DISTANCE | DIRECTION |
|----------------------------|-------------------------|----------------|
| Marley Ranch | Approximately 2.9 Miles | East-Southeast |
| Bill Kolb - KOBR TV Towers | Approximately 4.5 Miles | East |
| KOBR TV - two dwellings | Approximately 4.5 Miles | East |
| Pearce Ranch | Approximately 4.5 Miles | Southeast |
| Sand Ranch | Approximately 6.3 Miles | Northeast |
| Jack Luce Ranch | Approximately 6.5 Miles | Northeast |
| Pearce Ranch | Approximately 7 Miles | West |
| Buddy Fort Ranch | Approximately 7 Miles | East-Southeast |
| Sand Ranch | Approximately 7.2 Miles | Northwest |
| Bill Rushing | Approximately 8 Miles | Northeast |
| Tivis Ranch | Approximately 8.2 Miles | Southeast |
| Johnson Ranch | Approximately 9.7 Miles | North |



RESIDENCES WITHIN A TEN MILE RADIUS

TRIASSIC PARK WASTE DISPOSAL FACILITY

Figure 1-3

ENCLOSURE 2

New Mexico Environment Department
Hazardous and Radioactive Materials Bureau

Letter: New Mexico State Fire Marshal's Office
May 5, 2000

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| D001 | Only those ignitable wastes which can be treated by permitted methods prior to placement in the landfill. | 42,120 | T | D80, T01, S01, S02, T02 | |
| D002 | Only those corrosive wastes which can be treated by permitted methods prior to placement in the landfill. | 42,120 | T | D80, T01, S01, S02, T02 | |
| D003 | Only those reactive wastes which can be treated by permitted methods prior to placement in the landfill. | 42,120 | T | D80, T01, S01, S02, T02 | |
| D004 | Arsenic | 42,120 | T | D80, T01, S01, S02, T02 | |
| D005 | Barium | 42,120 | T | D80, T01, S01, S02, T02 | |
| D006 | Cadmium | 42,120 | T | D80, T01, S01, S02, T02 | |
| D007 | Chromium | 42,120 | T | D80, T01, S01, S02, T02 | |
| D008 | Lead | 42,120 | T | D80, T01, S01, S02, T02 | |
| D009 | Mercury | 42,120 | T | D80, T01, S01, S02, T02 | |
| D010 | Selenium | 42,120 | T | D80, T01, S01, S02, T02 | |
| D011 | Silver | 42,120 | T | D80, T01, S01, S02, T02 | |
| D012 | Endrin | 42,120 | T | D80, T01, S01, S02, T02 | |
| D013 | Lindane | 42,120 | T | D80, T01, S01, S02, T02 | |
| D014 | Methoxychlor | 42,120 | T | D80, T01, S01, S02, T02 | |
| D015 | Toxaphene | 42,120 | T | D80, T01, S01, S02, T02 | |
| D016 | 2,4-D | 42,120 | T | D80, T01, S01, S02, T02 | |
| D017 | 2,4,5-TP (Silvex) | 42,120 | T | D80, T01, S01, S02, T02 | |
| D018 | Benzene | 42,120 | T | D80, T01, S01, S02, T02 | |
| D019 | Carbon tetrachloride | 42,120 | T | D80, T01, S01, S02, T02 | |
| D020 | Chlordane | 42,120 | T | D80, T01, S01, S02, T02 | |
| D021 | Chlorobenzene | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|---------------------|--------------------------------------|---|----------------------------|-------------------------|--------------------------------|
| D022 | Chloroform | 42,120 | T | D80, T01, S01, S02, T02 | |
| D023 | o-Cresol | 42,120 | T | D80, T01; S01, S02, T02 | |
| D024 | m-Cresol | 42,120 | T | D80, T01, S01, S02, T02 | |
| D025 | p-Cresol | 42,120 | T | D80, T01, S01, S02, T02 | |
| D026 | Cresol | 42,120 | T | D80, T01, S01, S02, T02 | |
| D027 | 1,4-Dichlorobenzene | 42,120 | T | D80, T01, S01, S02, T02 | |
| D028 | 1,2-Dichloroethane | 42,120 | T | D80, T01, S01, S02, T02 | |
| D029 | 1,1-Dichloroethylene | 42,120 | T | D80, T01, S01, S02, T02 | |
| D030 | 2,4-Dinitrotoluene | 42,120 | T | D80, T01, S01, S02, T02 | |
| D031 | Heptachlor (and its epoxide) | 42,120 | T | D80, T01, S01, S02, T02 | |
| D032 | Hexachlorobenzene | 42,120 | T | D80, T01, S01, S02, T02 | |
| D033 | Hexachlorobutadiene | 42,120 | T | D80, T01; S01, S02, T02 | |
| D034 | Hexachloroethane | 42,120 | T | D80, T01, S01, S02, T02 | |
| D035 | Methyl ethyl ketone | 42,120 | T | D80, T01, S01, S02, T02 | |
| D036 | Nitrobenzene | 42,120 | T | D80, T01, S01, S02, T02 | |
| D037 | Pentachlorophenol | 42,120 | T | D80, T01, S01, S02, T02 | |
| D038 | Pyridine | 42,120 | T | D80, T01, S01, S02, T02 | |
| D039 | Tetrachloroethylene | 42,120 | T | D80, T01, S01, S02, T02 | |
| D040 | Trichloroethylene | 42,120 | T | D80, T01; S01, S02, T02 | |
| D041 | 2,4,5-Trichlorophenol | 42,120 | T | D80, T01, S01, S02, T02 | |
| D042 | 2,4,6-Trichlorophenol | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|-------------------------------|------------------------------------|-----------------|-------------------------|---------------------|
| D043 | Vinyl chloride | 42,120 | T | D80, T01, S01, S02, T02 | |

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|--|------------------------------------|-----------------|-------------------------|---------------------|
| F001 | The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; All spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures | 42,120 | T | D80, T01, S01, S02, T02 | |
| F002 | The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, orthodichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; All halogenated solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures | 42,120 | T | D80, T01, S01, S02, T02 | |
| F003 | The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; All spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures | 42,120 | T | D80, T01, S01, S02, T02 | |
| F004 | The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; All spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures | 42,120 | T | D80, T01, S01, S02, T02 | |
| F005 | The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; All spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|--|------------------------------------|-----------------|-------------------------|---------------------|
| F006 | Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum | 42,120 | T | D80, T01, S01, S02, T02 | |
| F007 | Spent cyanide plating bath solutions from electroplating operations | 42,120 | T | D80, T01, S01, S02, T02 | |
| F008 | Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process | 42,120 | T | D80, T01, S01, S02, T02 | |
| F009 | Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process | 42,120 | T | D80, T01, S01, S02, T02 | |
| F010 | Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process | 42,120 | T | D80, T01, S01, S02, T02 | |
| F011 | Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations | 42,120 | T | D80, T01, S01, S02, T02 | |
| F012 | Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process | 42,120 | T | D80, T01, S01, S02, T02 | |
| F019 | Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process | 42,120 | T | D80, T01, S01, S02, T02 | |
| F024 | Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in §261.31 or §261.32.) | 42,120 | T | D80, T01, S01, S02, T02 | |
| F025 | Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution | 42,120 | T | D80, T01, S01, S02, T02 | |
| F028 | Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, F027. | 42,120 | T | D80, T01, S01, S02, T02 | |
| F032 | Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with 40 CFR 261.35 of this chapter and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|--|------------------------------------|-----------------|-------------------------|---------------------|
| F034 | Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving process generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. | 42,120 | T | D80, T01, S01, S02, T02 | |
| F035 | Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving process generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. | 42,120 | T | D80, T01, S01, S02, T02 | |
| F037 | Petroleum refinery primary oil/water/solids separation sludge-Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in: oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in 40 CFR 261.31(b)(2) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing. | 42,120 | T | D80, T01, S01, S02, T02 | |
| F038 | Petroleum refinery secondary (emulsified) oil/water/solids separation sludge-Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in 40 CFR 261.31(b)(2) (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048, and K051 wastes are not included in this listing. | 42,120 | T | D80, T01, S01, S02, T02 | |
| F039 | Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under subpart D of this part. (Leachate resulting from the disposal of one or more of the following EPA Hazardous Wastes and no other Hazardous Wastes retains its EPA Hazardous Waste Number(s): F020, F021, F022, F026, F027, and/or F028.) | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|-------------|--|---------------------------------------|--------------------|-------------------------|------------------------|
| K001 | Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol | 42,120 | T | D80, T01, S01, S02, T02 | |
| K002 | Wastewater treatment sludge from the production of chrome yellow and orange pigments | 42,120 | T | D80, T01, S01, S02, T02 | |
| K003 | Wastewater treatment sludge from the production of molybdate orange pigments | 42,120 | T | D80, T01, S01, S02, T02 | |
| K004 | Wastewater treatment sludge from the production of zinc yellow pigments | 42,120 | T | D80, T01, S01, S02, T02 | |
| K005 | Wastewater treatment sludge from the production of chrome green pigments | 42,120 | T | D80, T01, S01, S02, T02 | |
| K006 | Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated) | 42,120 | T | D80, T01, S01, S02, T02 | |
| K007 | Wastewater treatment sludge from the production of iron blue pigments | 42,120 | T | D80, T01, S01, S02, T02 | |
| K008 | Oven residue from the production of chrome oxide green pigments | 42,120 | T | D80, T01, S01, S02, T02 | |
| K009 | Distillation bottoms from the production of acetaldehyde from ethylene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K010 | Distillation side cuts from the production of acetaldehyde from ethylene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K011 | Bottom stream from the wastewater stripper in the production of acrylonitrile | 42,120 | T | D80, T01, S01, S02, T02 | |
| K013 | Bottom stream from the acetonitrile column in the production of acrylonitrile | 42,120 | T | D80, T01, S01, S02, T02 | |
| K014 | Bottoms from the acetonitrile purification column in the production of acrylonitrile | 42,120 | T | D80, T01, S01, S02, T02 | |
| K015 | Still bottoms from the distillation of benzyl chloride | 42,120 | T | D80, T01, S01, S02, T02 | |
| K016 | Heavy ends or distillation residues from the production of carbon tetrachloride | 42,120 | T | D80, T01, S01, S02, T02 | |
| K017 | Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin | 42,120 | T | D80, T01, S01, S02, T02 | |
| K018 | Heavy ends from the fractionation column in ethyl chloride production | 42,120 | T | D80, T01, S01, S02, T02 | |
| K019 | Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production | 42,120 | T | D80, T01, S01, S02, T02 | |
| K020 | Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production | 42,120 | T | D80, T01, S01, S02, T02 | |
| K021 | Aqueous spent antimony catalyst waste from fluoromethanes production | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|--|------------------------------------|-----------------|-------------------------|---------------------|
| K022 | Distillation bottom tars from the production of phenol/acetone from cumene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K023 | Distillation light ends from the production of phthalic anhydride from naphthalene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K024 | Distillation bottoms from the production of phthalic anhydride from naphthalene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K025 | Distillation bottoms from the production of nitrobenzene by the nitration of benzene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K026 | Stripping still tails from the production of methy ethyl pyridines | 42,120 | T | D80, T01, S01, S02, T02 | |
| K027 | Centrifuge and distillation residues from toluene diisocyanate production | 42,120 | T | D80, T01, S01, S02, T02 | |
| K028 | Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane | 42,120 | T | D80, T01, S01, S02, T02 | |
| K029 | Waste from the product steam stripper in the production of 1,1,1-trichloroethane | 42,120 | T | D80, T01, S01, S02, T02 | |
| K030 | Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K031 | By-product salts generated in the production of MSMA and cacodylic acid | 42,120 | T | D80, T01, S01, S02, T02 | |
| K032 | Wastewater treatment sludge from the production of chlordane | 42,120 | T | D80, T01, S01, S02, T02 | |
| K033 | Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane | 42,120 | T | D80, T01, S01, S02, T02 | |
| K034 | Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane | 42,120 | T | D80, T01, S01, S02, T02 | |
| K035 | Wastewater treatment sludges generated in the production of creosote | 42,120 | T | D80, T01, S01, S02, T02 | |
| K036 | Still bottoms from toluene reclamation distillation in the production of disulfoton | 42,120 | T | D80, T01, S01, S02, T02 | |
| K037 | Wastewater treatment sludges from the production of disulfoton | 42,120 | T | D80, T01, S01, S02, T02 | |
| K038 | Wastewater from the washing and stripping of phorate production | 42,120 | T | D80, T01, S01, S02, T02 | |
| K039 | Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate | 42,120 | T | D80, T01, S01, S02, T02 | |
| K040 | Wastewater treatment sludge from the production of phorate | 42,120 | T | D80, T01, S01, S02, T02 | |
| K041 | Wastewater treatment sludge from the production toxaphene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K042 | Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTI |
|---------------------|--|---|----------------------------|-------------------------|------------------------------|
| K043 | 2,6-Dichlorophenol waste from the production of 2,4-D | 42,120 | T | D80, T01, S01, S02, T02 | |
| K044 | Wastewater treatment sludges from the manufacturing and processing of explosives | 42,120 | T | D80, T01, S01, S02, T02 | |
| K045 | Spent carbon from the treatment of wastewater containing explosives | 42,120 | T | D80, T01, S01, S02, T02 | |
| K046 | Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds | 42,120 | T | D80, T01, S01, S02, T02 | |
| K047 | Pink/red water from TNT operations | 42,120 | T | D80, T01, S01, S02, T02 | |
| K048 | Dissolved air flotation (DAF) float from the petroleum refining industry | 42,120 | T | D80, T01, S01, S02, T02 | |
| K049 | Slop oil emulsion solids from the petroleum refining industry | 42,120 | T | D80, T01, S01, S02, T02 | |
| K050 | Heat exchanger bundle cleaning sludge from the petroleum refining industry | 42,120 | T | D80, T01, S01, S02, T02 | |
| K051 | API separator sludge from the petroleum refining industry | 42,120 | T | D80, T01, S01, S02, T02 | |
| K052 | Tank bottoms (lead) from the petroleum refining industry | 42,120 | T | D80, T01, S01, S02, T02 | |
| K060 | Ammonia still lime sludge from coking operations | 42,120 | T | D80, T01, S01, S02, T02 | |
| K061 | Emission control dust/sludge from the primary production of steel in electric furnaces | 42,120 | T | D80, T01, S01, S02, T02 | |
| K062 | Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332) | 42,120 | T | D80, T01, S01, S02, T02 | |
| K064 | Acid plant blowdown slurry/sludge resulting from the thickening of blowdown slurry from primary copper production | 42,120 | T | D80, T01, S01, S02, T02 | |
| K065 | Surface impoundment solids contained in and dredged from surface impoundments at primary lead smelting facilities | 42,120 | T | D80, T01, S01, S02, T02 | |
| K066 | Sludge from treatment of process wastewater and/or acid plant blowdown from primary zinc production | 42,120 | T | D80, T01, S01, S02, T02 | |
| K069 | Emission control dust/sludge from secondary lead smelting. (Note: This listing is stayed administratively for sludge generated from secondary acid scrubber systems. The stay will remain in effect until further administrative action is taken. If EPA takes further action effecting this stay, EPA will publish a notice of the action in the Federal Register.) | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|--|------------------------------------|-----------------|-------------------------|---------------------|
| K071 | Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used | 42,120 | T | D80, T01, S01, S02, T02 | |
| K073 | Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production | 42,120 | T | D80, T01, S01, S02, T02 | |
| K083 | Distillation bottoms from aniline production | 42,120 | T | D80, T01, S01, S02, T02 | |
| K084 | Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds | 42,120 | T | D80, T01, S01, S02, T02 | |
| K085 | Distillation or fractionation column bottoms from the production of chlorobenzenes | 42,120 | T | D80, T01, S01, S02, T02 | |
| K086 | Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead | 42,120 | T | D80, T01, S01, S02, T02 | |
| K087 | Decanter tank tar sludge from coking operations | 42,120 | T | D80, T01, S01, S02, T02 | |
| K088 | Spent potliners from primary aluminum reduction | 42,120 | T | D80, T01, S01, S02, T02 | |
| K090 | Emission control dust or sludge from ferrochromium/silicon production | 42,120 | T | D80, T01, S01, S02, T02 | |
| K091 | Emission control dust or sludge from ferrochromium production | 42,120 | T | D80, T01, S01, S02, T02 | |
| K093 | Distillation light ends from the production of phthalic anhydride from ortho-xylene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K094 | Distillation bottoms from the production of phthalic anhydride from ortho-xylene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K095 | Distillation bottoms from the production of 1,1,1-trichloroethane | 42,120 | T | D80, T01, S01, S02, T02 | |
| K096 | Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane | 42,120 | T | D80, T01, S01, S02, T02 | |
| K097 | Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane | 42,120 | T | D80, T01, S01, S02, T02 | |
| K098 | Untreated process wastewater from the production of toxaphene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K099 | Untreated wastewater from the production of 2,4-D | 42,120 | T | D80, T01, S01, S02, T02 | |
| K100 | Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| K101 | Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds | 42,120 | T | D80, T01, S01, S02, T02 | |
| K102 | Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds | 42,120 | T | D80, T01, S01, S02, T02 | |
| K103 | Process residues from aniline extraction from the production of aniline | 42,120 | T | D80, T01, S01, S02, T02 | |
| K104 | Combined wastewater streams generated from nitrobenzene/aniline production | 42,120 | T | D80, T01, S01, S02, T02 | |
| K105 | Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes | 42,120 | T | D80, T01, S01, S02, T02 | |
| K106 | Wastewater treatment sludge from the mercury cell process in chlorine production | 42,120 | T | D80, T01, S01, S02, T02 | |
| K107 | Column bottoms from product separation from the production of 1,1-dimethyl-hydrazine (UDMH) from carboxylic acid hydrazides | 42,120 | T | D80, T01, S01, S02, T02 | |
| K108 | Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides | 42,120 | T | D80, T01, S01, S02, T02 | |
| K109 | Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides | 42,120 | T | D80, T01, S01, S02, T02 | |
| K110 | Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides | 42,120 | T | D80, T01, S01, S02, T02 | |
| K111 | Product washwaters from the production of dinitrotoluene via nitration of toluene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K112 | Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K113 | Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K114 | Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene | 42,120 | T | D80, T01, S04, S02, T02 | |
| K115 | Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|---------------------|--|---|----------------------------|-------------------------|--------------------------------|
| K116 | Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine | 42,120 | T | D80, T01, S01, S02, T02 | |
| K117 | Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K118 | Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K123 | Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt | 42,120 | T | D80, T01, S01, S02, T02 | |
| K124 | Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts | 42,120 | T | D80, T01, S01, S02, T02 | |
| K125 | Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts | 42,120 | T | D80, T01, S01, S02, T02 | |
| K126 | Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts | 42,120 | T | D80, T01, S01, S02, T02 | |
| K131 | Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide | 42,120 | T | D80, T01, S01, S02, T02 | |
| K132 | Spent absorbent and wastewater separator solids from the production of methyl bromide | 42,120 | T | D80, T01, S01, S02, T02 | |
| K136 | Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene | 42,120 | T | D80, T01, S01, S02, T02 | |
| K141 | Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations). | 42,120 | T | D80, T01, S01, S02, T02 | |
| K142 | Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products from coal. | 42,120 | T | D80, T01, S01, S02, T02 | |
| K143 | Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal. | 42,120 | T | D80, T01, S01, S02, T02 | |
| K144 | Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal. | 42,120 | T | D80, T01, S01, S02, T02 | |
| K145 | Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

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|---------------------|--|---|----------------------------|-------------------------|--------------------------------|
| K147 | Tar storage tank residues from coal tar refining | 42,120 | T | D80, T01, S01, S02, T02 | |
| K148 | Residues from coal tar distillation, including but not limited to, still bottoms | 42,120 | T | D80, T01, S01, S02, T02 | |
| K149 | Distillation bottoms from the production of alpha-(or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups (this waste does not include still bottoms from the distillation of benzyl chloride). | 42,120 | T | D80, T01, S01, S02, T02 | |
| K150 | Organic residuals, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha-(or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. | 42,120 | T | D80, T01, S01, S02, T02 | |
| K151 | Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha-(or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. | 42,120 | T | D80, T01, S01, S02, T02 | |

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|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| P001 | Warfarin, & salts, when present at concentrations greater than 0.3%, 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1 phenylbutyl)-, & salts, when present at concentrations greater than 0.3% | 42,120 | T | D80, T01, S01, S02, T02 | |
| P002 | Acetamide, N-(aminothioxomethyl)-, 1-Acetyl-2-thiourea | 42,120 | T | D80, T01, S01, S02, T02 | |
| P003 | Acrolein, 2-Propenal | 42,120 | T | D80, T01, S01, S02, T02 | |
| P004 | Aldrin, 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa-chloro- 1,4,4a,5,8,8a,-hexahydro-, (1a-pha,4alpha,4abeta,5alpha,8alpha,8abeta)- | 42,120 | T | D80, T01, S01, S02, T02 | |
| P005 | 2-Propen-1-ol, Allyl alcohol | 42,120 | T | D80, T01, S01, S02, T02 | |
| P006 | Aluminum phosphide | 42,120 | T | D80, T01, S01, S02, T02 | |
| P007 | 5-(Aminomethyl)-3-isoxazolol, 3(2H)-Isoxazolone, 5-(aminomethyl)- | 42,120 | T | D80, T01, S01, S02, T02 | |
| P008 | 4-Pyridinamine, 4-Aminopyridine | 42,120 | T | D80, T01, S01, S02, T02 | |
| P009 | Phenol, 2,4,6-trinitro-, ammonium salt, Ammonium picrate | 42,120 | T | D80, T01, S01, S02, T02 | |
| P010 | Arsenic acid H_3AsO_4 | 42,120 | T | D80, T01, S01, S02, T02 | |
| P011 | Arsenic pentoxide, Arsenic oxide As_2O_5 | 42,120 | T | D80, T01, S01, S02, T02 | |
| P012 | Arsenic oxide As_2O_3 , Arsenic trioxide | 42,120 | T | D80, T01, S01, S02, T02 | |
| P013 | Barium cyanide | 42,120 | T | D80, T01, S01, S02, T02 | |
| P014 | Benzenethiol, Thiophenol | 42,120 | T | D80, T01, S01, S02, T02 | |
| P015 | Beryllium powder | 42,120 | T | D80, T01, S01, S02, T02 | |
| P016 | Dichloromethyl ether, Methane, oxybis(chloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| P017 | 2-Propanone, 1-bromo-, Bromoacetone | 42,120 | T | D80, T01, S01, S02, T02 | |
| P018 | Strychnidin-10-one, 2,3-dimethoxy-, Brucine | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

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|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| P020 | Phenol, 2-(1-methylpropyl)-4,6-dinitro-, Dinoseb | 42,120 | T | D80, T01, S01, S02, T02 | |
| P021 | Calcium cyanide, Calcium cyanide Ca(CN) ₂ | 42,120 | T | D80, T01, S01, S02, T02 | |
| P022 | Carbon disulfide | 42,120 | T | D80, T01, S01, S02, T02 | |
| P023 | Acetaldehyde, chloro-, Chloroacetaldehyde | 42,120 | T | D80, T01, S01, S02, T02 | |
| P024 | Benzenamine, 4-chloro-, p-Chloroaniline | 42,120 | T | D80, T01, S01, S02, T02 | |
| P026 | Thiourea, (2-chlorophenyl)-, 1-(o-Chlorophenyl)thiourea | 42,120 | T | D80, T01, S01, S02, T02 | |
| P027 | Propanenitrile, 3-chloro-, 3-Chloropropionitrile | 42,120 | T | D80, T01, S01, S02, T02 | |
| P028 | Benzene, (chloromethyl)-, Benzyl chloride | 42,120 | T | D80, T01, S01, S02, T02 | |
| P029 | Copper cyanide, Copper cyanide Cu(CN) | 42,120 | T | D80, T01, S01, S02, T02 | |
| P030 | Cyanides (soluble cyanide salts), not otherwise specified | 42,120 | T | D80, T01, S01, S02, T02 | |
| P031 | Ethanedinitrile, Cyanogen | 42,120 | T | D80, T01, S01, S02, T02 | |
| P033 | Cyanogen chloride (CN)Cl, Cyanogen chloride | 42,120 | T | D80, T01, S01, S02, T02 | |
| P034 | 2-Cyclohexyl-4,6-dinitrophenol, Phenol, 2-cyclohexyl-4,6-dinitro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| P036 | Dichlorophenylarsine, Arsonous dichloride, phenyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| P037 | Dieldrin, 2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexa- chloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aα- pha,2βeta,2αalpha,3βeta,6βeta,6αalpha,7βeta, 7αalpha)- | 42,120 | T | D80, T01, S01, S02, T02 | |
| P038 | Arsine, diethyl-, Diethylarsine | 42,120 | T | D80, T01, S01, S02, T02 | |
| P039 | Disulfoton, Phosphorodithioic acid, O,O-diethyl...S- [2-(ethylthio)ethyl] ester | 42,120 | T | D80, T01, S01, S02, T02 | |
| P040 | O,O-Diethyl O-pyrazinyl phosphorothioate, Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester | 42,120 | T | D80, T01, S01, S02, T02 | |
| P041 | Phosphoric acid, diethyl 4-nitrophenyl ester, Diethyl-p-nitrophenyl phosphate | 42,120 | T | D80, T01, S01, S02, T02 | |
| P042 | Epinephrine, 1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

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|----------|--|------------------------------------|-----------------|-------------------------|---------------------|
| P043 | Phosphorofluoric acid, bis(1-methylethyl) ester, Diisopropylfluorophosphate (DFP) | 42,120 | T | D80, T01, S01, S02, T02 | |
| P044 | Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester, Dimethoate | 42,120 | T | D80, T01, S01, S02, T02 | |
| P045 | 2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-(methylamino)carbonyl oxime, Thiofanox | 42,120 | T | D80, T01, S01, S02, T02 | |
| P046 | Benzeneethanamine, alpha,alpha-dimethyl-, alpha,alpha-Dimethylphenethylamine | 42,120 | T | D80, T01, S01, S02, T02 | |
| P047 | Phenol, 2-methyl-4,6-dinitro-, & salts, 4,6-Dinitro-o-cresol, & salts | 42,120 | T | D80, T01, S01, S02, T02 | |
| P048 | Phenol, 2,4-dinitro-, 2,4-Dinitrophenol | 42,120 | T | D80, T01, S01, S02, T02 | |
| P049 | Dithiobiuret, Thioimidodicarbonic diamide [(H ₂ N)C(S)] ₂ NH | 42,120 | T | D80, T01, S01, S02, T02 | |
| P050 | Endosulfan, 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide | 42,120 | T | D80, T01, S01, S02, T02 | |
| P051 | 2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexa-chloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2beta,3alpha,6alpha,6beta,7beta,7aalpha)-, & metabolites, Endrin, & metabolites, Endrin | 42,120 | T | D80, T01, S01, S02, T02 | |
| P054 | Ethyleneimine, Aziridine | 42,120 | T | D80, T01, S01, S02, T02 | |
| P056 | Fluorine | 42,120 | T | D80, T01, S01, S02, T02 | |
| P057 | Acetamide, 2-fluoro-, Fluoroacetamide | 42,120 | T | D80, T01, S01, S02, T02 | |
| P058 | Acetic acid, fluoro-, sodium salt, Fluoroacetic acid, sodium salt | 42,120 | T | D80, T01, S01, S02, T02 | |
| P059 | 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro ...3a,4,7,7a-tetrahydro-, Heptachlor | 42,120 | T | D80, T01, S01, S02, T02 | |
| P060 | 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa-chloro- 1,4,4a,5,8,8a-hexahydro-, (1aalpha,4alpha,4beta,5beta,8beta,8beta)-, Isodrin | 42,120 | T | D80, T01, S01, S02, T02 | |
| P062 | Tetraphosphoric acid, hexaethyl ester, Hexaethyl tetraphosphate | 42,120 | T | D80, T01, S01, S02, T02 | |
| P063 | Hydrocyanic acid, Hydrogen cyanide | 42,120 | T | D80, T01, S01, S02, T02 | |
| P064 | Methyl isocyanate, Methane, isocyanato- | 42,120 | T | D80, T01, S01, S02, T02 | |
| P065 | Fulminic acid, mercury(2+) salt, Mercury fulminate | 42,120 | T | D80, T01, S01, S02, T02 | |
| P066 | Methomyl, Ethanimidothioic acid,...N-[(methylamino)carbonyl]oxy]-, methyl ester | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

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|----------|---|------------------------------------|-----------------|-------------------------|-------------------|
| P067 | Aziridine, 2-methyl-, 1,2-Propylenimine | 42,120 | T | D80, T01, S01, S02, T02 | |
| P068 | Methyl hydrazine, Hydrazine, methyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| P069 | 2-Methylactonitrile, Propanenitrile, 2-hydroxy-2-methyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| P070 | Propanal, 2-methyl-2-(methylthio)-,...O-[(methylamino)carbonyl] oxime, Aldicarb | 42,120 | T | D80, T01, S01, S02, T02 | |
| P071 | Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester, Methyl parathion | 42,120 | T | D80, T01, S01, S02, T02 | |
| P072 | Thiourea, 1-naphthalenyl-, alpha-Naphthylthiourea | 42,120 | T | D80, T01, S01, S02, T02 | |
| P073 | Nickel carbonyl Ni(CO) ₄ , (T-4)-, Nickel carbonyl | 42,120 | T | D80, T01, S01, S02, T02 | |
| P074 | Nickel cyanide, Nickel cyanide Ni(CN) ₂ | 42,120 | T | D80, T01, S01, S02, T02 | |
| P075 | Nicotine, & salts, Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts | 42,120 | T | D80, T01, S01, S02, T02 | |
| P076 | Nitric oxide, Nitrogen oxide NO | 42,120 | T | D80, T01, S01, S02, T02 | |
| P077 | p-Nitroaniline, Benzenamine, 4-nitro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| P078 | Nitrogen dioxide, Nitrogen oxide NO ₂ | 42,120 | T | D80, T01, S01, S02, T02 | |
| P081 | 1,2,3-Propanetriol, trinitrate, Nitroglycerine | 42,120 | T | D80, T01, S01, S02, T02 | |
| P082 | N-Nitrosodimethylamine, Methanamine, N-methyl-N-nitroso- | 42,120 | T | D80, T01, S01, S02, T02 | |
| P084 | N-Nitrosomethylvinylamine, Vinylamine, N-methyl-N-nitroso- | 42,120 | T | D80, T01, S01, S02, T02 | |
| P085 | Diphosphoramidate, octamethyl-, Octamethylpyrophosphoramidate | 42,120 | T | D80, T01, S01, S02, T02 | |
| P087 | Osmium oxide OsO ₄ , (T-4)-, Osmium tetroxide | 42,120 | T | D80, T01, S01, S02, T02 | |
| P088 | Endothall, 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid | 42,120 | T | D80, T01, S01, S02, T02 | |
| P089 | Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester, Parathion | 42,120 | T | D80, T01, S01, S02, T02 | |
| P092 | Phenylmercury acetate, Mercury, (acetato-O)phenyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| P093 | Thiourea, phenyl-, Phenylthiourea | 42,120 | T | D80, T01, S01, S02, T02 | |

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| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|---------------------|--|---|----------------------------|-------------------------|--------------------------------|
| P094 | Phosphorodithioic acid, O,O-diethyl...S-[(ethylthio)methyl] ester, Phorate | 42,120 | T | D80, T01, S01, S02, T02 | |
| P095 | Phosgene, Carbonic dichloride | 42,120 | T | D80, T01, S01, S02, T02 | |
| P096 | Phosphine, Hydrogen phosphide | 42,120 | T | D80, T01, S01, S02, T02 | |
| P097 | Famphur, Phosphorothioic acid,...O-[4-[(dimethyl-amino)sulfonyl]phenyl] O,O-dimethyl ester | 42,120 | T | D80, T01, S01, S02, T02 | |
| P098 | Potassium cyanide, Potassium cyanide K(CN) | 42,120 | T | D80, T01, S01, S02, T02 | |
| P099 | Potassium silver cyanide, Argentate(1-), bis(cyano-C)-, potassium | 42,120 | T | D80, T01, S01, S02, T02 | |
| P101 | Ethyl cyanide, Propanenitrile | 42,120 | T | D80, T01, S01, S02, T02 | |
| P102 | Propargyl alcohol, 2-Propyn-1-ol | 42,120 | T | D80, T01, S01, S02, T02 | |
| P103 | Selenourea | 42,120 | T | D80, T01, S01, S02, T02 | |
| P104 | Silver cyanide Ag(CN), Silver cyanide | 42,120 | T | D80, T01, S01, S02, T02 | |
| P105 | Sodium azide | 42,120 | T | D80, T01, S01, S02, T02 | |
| P106 | Sodium cyanide, Sodium cyanide Na(CN) | 42,120 | T | D80, T01, S01, S02, T02 | |
| P108 | Strychnidin-10-one, & salts, Strychnine, & salts | 42,120 | T | D80, T01, S01, S02, T02 | |
| P109 | Thiodiphosphoric acid, tetraethyl ester, Tetraethyldithiopyrophosphate | 42,120 | T | D80, T01, S01, S02, T02 | |
| P110 | Plumbane, tetraethyl-, Tetraethyl lead | 42,120 | T | D80, T01, S01, S02, T02 | |
| P111 | Tetraethyl pyrophosphate, Diphosphoric acid, tetraethyl ester | 42,120 | T | D80, T01, S01, S02, T02 | |
| P112 | Tetranitromethane, Methane, tetranitro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| P113 | Thallic oxide, Thallium oxide Tl ₂ O ₃ | 42,120 | T | D80, T01, S01, S02, T02 | |
| P114 | Selenious acid, dithallium(1+) salt, Thallium(I) selenite | 42,120 | T | D80, T01, S01, S02, T02 | |
| P115 | Thallium(I) sulfate, Sulfuric acid, dithallium(1+) salt | 42,120 | T | D80, T01, S01, S02, T02 | |
| P116 | Hydrazinecarbothioamide, Thiosemicarbazide | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|-------------|--|---------------------------------------|--------------------|-------------------------|------------------------|
| P118 | Methanethiol, trichloro-, Trichloromethanethiol | 42,120 | T | D80, T01, S01, S02, T02 | |
| P119 | Vanadic acid, ammonium salt, Ammonium vanadate | 42,120 | T | D80, T01, S01, S02, T02 | |
| P120 | Vanadium oxide V_2O_5 , Vanadium pentoxide | 42,120 | T | D80, T01, S01, S02, T02 | |
| P121 | Zinc cyanide $Zn(CN)_2$, Zinc cyanide | 42,120 | T | D80, T01, S01, S02, T02 | |
| P122 | Zinc phosphide Zn_3P_2 , when present at concentrations greater than 10% | 42,120 | T | D80, T01, S01, S02, T02 | |
| P123 | Toxaphene | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| U001 | Acetaldehyde, Ethanal | 42,120 | T | D80, T01, S01, S02, T02 | |
| U002 | Acetone, 2-Propanone | 42,120 | T | D80, T01, S01, S02, T02 | |
| U003 | Acetonitrile | 42,120 | T | D80, T01, S01, S02, T02 | |
| U004 | Ethanone, 1-phenyl-, Acetophenone | 42,120 | T | D80, T01, S01, S02, T02 | |
| U005 | 2-Acetylaminofluorene, Acetamide, N-9H-fluoren-2-yl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U006 | Acetyl chloride | 42,120 | T | D80, T01, S01, S02, T02 | |
| U007 | Acrylamide, 2-Propenamide | 42,120 | T | D80, T01, S01, S02, 02 | |
| U008 | Acrylic acid, 2-Propenoic acid | 42,120 | T | D80, T01, S01, S02, T02 | |
| U009 | Acrylonitrile, 2-Propenenitrile | 42,120 | T | D80, T01, S01, S02, T02 | |
| U010 | Azirino[2',3':3,4]pyrrolo [1,2-a]indole-4,7-dione, 6-amino-8-[(aminocarbonyloxy)methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta,8aalpha,8balpha)]-, Mitomycin C | 42,120 | T | D80, T01, S01, S02, T02 | |
| U011 | Amitrole, 1H-1,2,4-Triazol-3-amine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U012 | Aniline, Benzenamine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U014 | Benzenamine, 4,4'-carbonimidoylbis [N,N-dimethyl-, Auramine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U015 | Azaserine, L-Serine, diazoacetate (ester) | 42,120 | T | D80, T01, S01, S02, T02 | |
| U016 | Benz[c]acridine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U017 | Benzal chloride, Benzene, (dichloromethyl)- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U018 | Benz[a]anthracene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U019 | Benzene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U020 | Benzenesulfonic acid chloride, Benzenesulfonyl chloride | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|--|------------------------------------|-----------------|-------------------------|---------------------|
| U021 | [1,1'-Biphenyl]-4,4'-diamine, Benzidine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U022 | Benzo[a]pyrene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U023 | Benzotrichloride, Benzene, (trichloromethyl)- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U024 | Dichloromethoxy ethane, Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U025 | Ethane, 1,1'-oxybis[2-chloro-, Dichloroethyl ether | 42,120 | T | D80, T01, S01, S02, T02 | |
| U026 | Chloromaphazin, Naphthalenamine, N,N'-bis(2-chloroethyl)- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U027 | Dichloroisopropyl ether, Propane, 2,2'-oxybis[2-chloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U028 | 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester, Diethylhexyl phthalate | 42,120 | T | D80, T01, S01, S02, T02 | |
| U029 | Methane, bromo-, Methyl bromide | 42,120 | T | D80, T01, S01, S02, T02 | |
| U030 | Benzene, 1-bromo-4-phenoxy-, 4-Bromophenyl phenyl ether | 42,120 | T | D80, T01, S01, S02, T02 | |
| U031 | n-Butyl alcohol, 1-Butanol | 42,120 | T | D80, T01, S01, S02, T02 | |
| U032 | Calcium chromate, Chromic acid H ₂ CrO ₄ , calcium salt | 42,120 | T | D80, T01, S01, S02, T02 | |
| U033 | Carbon oxyfluoride, Carbonic difluoride | 42,120 | T | D80, T01, S01, S02, T02 | |
| U034 | Chloral, Acetaldehyde, trichloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U035 | Chlorambucil, Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U036 | Chlordane, alpha & gamma isomers, 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U037 | Benzene, chloro-, Chlorobenzene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U038 | Chlorobenzilate, Benzenecetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester | 42,120 | T | D80, T01, S01, S02, T02 | |
| U039 | p-Chloro-m-cresol, Phenol, 4-chloro-3-methyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U041 | Epichlorohydrin, Oxirane, (chloromethyl)- | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| U042 | Ethene, (2-chloroethoxy)-, 2-Chloroethyl vinyl ether | 42,120 | T | D80, T01, S01, S02, T02 | |
| U043 | Ethene, chloro-, Vinyl chloride | 42,120 | T | D80, T01, S01, S02, T02 | |
| U044 | Chloroform, Methane, trichloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U045 | Methane, chloro-, Methyl chloride | 42,120 | T | D80, T01, S01, S02, T02 | |
| U046 | Chloromethyl methyl ether, Methane, chloromethoxy- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U047 | beta-Chloronaphthalene, Naphthalene, 2-chloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U048 | o-Chlorophenol, Phenol, 2-chloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U049 | 4-Chloro-o-toluidine, hydrochloride, Benzenamine, 4-chloro-2-methyl-, hydrochloride | 42,120 | T | D80, T01, S01, S02, T02 | |
| U050 | Chrysene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U051 | Creosote | 42,120 | T | D80, T01, S01, S02, T02 | |
| U052 | Cresol (Cresylic acid), Phenol, methyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U053 | Crotonaldehyde, 2-Butenal | 42,120 | T | D80, T01, S01, S02, T02 | |
| U055 | Benzene, (1-methylethyl)-, Cumene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U056 | Cyclohexane, Benzene, hexahydro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U057 | Cyclohexanone | 42,120 | T | D80, T01, S01, S02, T02 | |
| U058 | Cyclophosphamide, 2H-1,3,2-Oxazaphosphorin-2-amine,...N,N-bis(2-chloroethyl) tetrahydro-, 2-oxide | 42,120 | T | D80, T01, S01, S02, T02 | |
| U059 | 5,12-Naphthacenedione, 8-acetyl-10- [(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-, Daunomycin | 42,120 | T | D80, T01, S01, S02, T02 | |
| U060 | DDD, Benzene, 1,1'-(2,2-dichloroethylidene)bis [4-chloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U061 | DDT, Benzene, 1,1'-(2,2,2-trichloroethylidene)bis [4-chloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U062 | Diallate, Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTI |
|-------------|--|--|--------------------|-------------------------|----------------------|
| U063 | Dibenz[a,h]anthracene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U064 | Benzo[rs]pentaphene, Dibenzo[a,i]pyrene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U066 | 1,2-Dibromo-3-chloropropane, Propane, 1,2-dibromo-3-chloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U067 | Ethane, 1,2-dibromo-, Ethylene dibromide | 42,120 | T | D80, T01, S01, S02, T02 | |
| U068 | Methane, dibromo-, Methylene bromide | 42,120 | T | D80, T01, S01, S02, T02 | |
| U069 | Dibutyl phthalate, 1,2-Benzenedicarboxylic acid, dibutyl ester | 42,120 | T | D80, T01, S01, S02, T02 | |
| U070 | o-Dichlorobenzene, Benzene, 1,2-dichloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U071 | m-Dichlorobenzene, Benzene, 1,3-dichloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U072 | Benzene, 1,4-dichloro-, p-Dichlorobenzene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U073 | 3,3'-Dichlorobenzidine, [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U074 | 1,4-Dichloro-2-butene, 2-Butene, 1,4-dichloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U075 | Methane, dichlorodifluoro-, Dichlorodifluoromethane | 42,120 | T | D80, T01, S01, S02, T02 | |
| U076 | Ethylidene dichloride, Ethane, 1,1-dichloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U077 | Ethylene dichloride, Ethane, 1,2-dichloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U078 | 1,1-Dichloroethylene, Ethene, 1,1-dichloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U079 | 1,2-Dichloroethylene, Ethene, 1,2-dichloro-, (E)- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U080 | Methane, dichloro-, Methylene chloride | 42,120 | T | D80, T01, S01, S02, T02 | |
| U081 | 2,4-Dichlorophenol, Phenol, 2,4-dichloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U082 | 2,6-Dichlorophenol, Phenol, 2,6-dichloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U083 | Propane, 1,2-dichloro-, Propylene dichloride | 42,120 | T | D80, T01, S01, S02, T02 | |
| U084 | 1,3-Dichloropropene, 1-Propene, 1,3-dichloro- | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|--|------------------------------------|-----------------|-------------------------|---------------------|
| U085 | 2,2'-Bioxirane, 1,2:3,4-Diepoxybutane | 42,120 | T | D80, T01, S01, S02, T02 | |
| U086 | N,N'-Diethylhydrazine, Hydrazine, 1,2-diethyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U087 | O,O-Diethyl S-methyl dithiophosphate, Phosphorodithioic acid, O,O-diethyl S-methyl ester | 42,120 | T | D80, T01, S01, S02, T02 | |
| U088 | Diethyl phthalate, 1,2-Benzenedicarboxylic acid, diethyl ester | 42,120 | T | D80, T01, S01, S02, T02 | |
| U089 | Diethylstilbesterol, Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U090 | Dihydrosafrole, 1,3-Benzodioxole, 5-propyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U091 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-, 3,3'-Dimethoxybenzidine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U092 | Methanamine, N-methyl-, Dimethylamine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U093 | p-Dimethylaminoazobenzene, Benzenamine, N,N-dimethyl-4-(phenylazo)- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U094 | Benz[a]anthracene, 7,12-dimethyl-, 7,12-Dimethylbenz[a]anthracene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U095 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-, 3,3'-Dimethylbenzidine, 2,3,3'-Dimethylbenzidine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U096 | Hydroperoxide, 1-methyl-1-phenylethyl-, alpha,alpha-Dimethylbenzylhydroperoxide | 42,120 | T | D80, T01, S01, S02, T02 | |
| U097 | Carbamic chloride, dimethyl-, Dimethylcarbonyl chloride | 42,120 | T | D80, T01, S01, S02, T02 | |
| U098 | 1,1-Dimethylhydrazine, Hydrazine, 1,1-dimethyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U099 | Hydrazine, 1,2-dimethyl-, 1,2-Dimethylhydrazine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U101 | 2,4-Dimethylphenol, Phenol, 2,4-dimethyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U102 | 1,2-Benzenedicarboxylic acid, dimethyl ester, Dimethyl phthalate | 42,120 | T | D80, T01, S01, S02, T02 | |
| U103 | Dimethyl sulfate, Sulfuric acid, dimethyl ester | 42,120 | T | D80, T01, S01, S02, T02 | |
| U105 | Benzene, 1-methyl-2,4-dinitro-, 2,4-Dinitrotoluene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U106 | 2,6-Dinitrotoluene, Benzene, 2-methyl-1,3-dinitro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U107 | Di-n-octyl phthalate, 1,2-Benzenedicarboxylic acid, dioctyl ester | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| <i>EPA CODE</i> | <i>CHARACTERISTIC OR CONTAMINANT</i> | <i>ESTIMATED ANNUAL QUANTITY OF WASTE</i> | <i>UNIT OF MEASURE</i> | <i>PROCESS CODES</i> | <i>PROCESS DESCRIPTION</i> |
|---------------------|---|---|----------------------------|-------------------------|--------------------------------|
| U108 | 1,4-Dioxane, 1,4-Diethyleneoxide | 42,120 | T | D80, T01, S01, S02, T02 | |
| U109 | 1,2-Diphenylhydrazine, Hydrazine, 1,2-diphenyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U110 | Dipropylamine, 1-Propanamine, N-propyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U111 | Di-n-propylnitrosamine, 1-Propanamine, N-nitroso-N-propyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U112 | Acetic acid ethyl ester, Ethyl acetate | 42,120 | T | D80, T01, S01, S02, T02 | |
| U113 | Ethyl acrylate, 2-Propenoic acid, ethyl ester | 42,120 | T | D80, T01, S01, S02, T02 | |
| U114 | Ethylenebisdithiocarbamic acid, salts & esters, Carbamodithioic acid, 1,2-ethanediybis-....salts & esters | 42,120 | T | D80, T01, S01, S02, T02 | |
| U115 | Ethylene oxide, Oxirane | 42,120 | T | D80, T01, S01, S02, T02 | |
| U116 | Ethylenethiourea, 2-Imidazolidinethione | 42,120 | T | D80, T01, S01, S02, T02 | |
| U117 | Ethyl ether, Ethane, 1,1'-oxybis- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U118 | Ethyl methacrylate, 2-Propenoic acid, 2-methyl-, ethyl ester | 42,120 | T | D80, T01, S01, S02, T02 | |
| U119 | Ethyl methanesulfonate, Methanesulfonic acid, ethyl ester | 42,120 | T | D80, T01, S01, S02, T02 | |
| U120 | Fluoranthene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U121 | Methane, trichlorofluoro-, Trichloromonofluoromethane | 42,120 | T | D80, T01, S01, S02, T02 | |
| U122 | Formaldehyde | 42,120 | T | D80, T01, S01, S02, T02 | |
| U123 | Formic acid | 42,120 | T | D80, T01, S01, S02, T02 | |
| U124 | Furfuran, Furan | 42,120 | T | D80, T01, S01, S02, T02 | |
| U125 | 2-Furancarboxaldehyde, Furfural | 42,120 | T | D80, T01, S01, S02, T02 | |
| U126 | Glycidylaldehyde, Oxiranecarboxyaldehyde | 42,120 | T | D80, T01, S01, S02, T02 | |
| U127 | Benzene, hexachloro-, Hexachlorobenzene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U128 | 1,3-Butadiene, 1,1,2,3,4,4-hexachloro-, Hexachlorobutadiene | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| U129 | Lindane, Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1a-pha,2alpha,3beta,4alpha,5alpha,6beta)- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U130 | Hexachlorocyclopentadiene, 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U131 | Hexachloroethane, Ethane, hexachloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U132 | Hexachlorophene, Phenol, 2,2'-methylenebis[3,4,6-trichloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U133 | Hydrazine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U134 | Hydrogen fluoride, Hydrofluoric acid | 42,120 | T | D80, T01, S01, S02, T02 | |
| U135 | Hydrogen sulfide H ₂ S, Hydrogen sulfide | 42,120 | T | D80, T01, S01, S02, T02 | |
| U136 | Cacodylic acid, Arsinic acid, dimethyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U137 | Indeno[1,2,3-cd]pyrene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U138 | Methane, iodo-, Methyl iodide | 42,120 | T | D80, T01, S01, S02, T02 | |
| U140 | Isobutyl alcohol, 1-Propanol, | 42,120 | T | D80, T01, S01, S02, T02 | |
| U141 | Isosafrole, 1,3-Benzodioxole, 5-(1-propenyl)- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U142 | Kepone, 1,3,4-Metheno-2H-cyclobuta [cd]pentalen-2-one, 1,1a,3,3a,4,5,5a,5b,6-decachlorooctahydro-U | 42,120 | T | D80, T01, S01, S02, T02 | |
| U143 | Lasiocarpine, 2-Butenoic acid, 2-methyl-, 7-[(2,3-dihydroxy-...2-(1-methoxyethyl)-3-methyl-1-oxobutoxy)methyl]-...2,3,5,7 a-t etrahydro-1H-pyrrolizin-1-yl ester,...[1S-[1a-pha(Z),7(2S*,3R*),7aalpha]]- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U144 | Lead acetate, Acetic acid, lead(2+) salt | 42,120 | T | D80, T01, S01, S02, T02 | |
| U145 | Lead phosphate, Phosphoric acid, lead(2+) salt (2:3) | 42,120 | T | D80, T01, S01, S02, T02 | |
| U146 | Lead, bis(acetato-O)(tetrahydroxytri-, Lead subacetate | 42,120 | T | D80, T01, S01, S02, T02 | |
| U147 | Maleic anhydride, 2,5-Purandione | 42,120 | T | D80, T01, S01, S02, T02 | |
| U148 | Maleic hydrazide, 3,6-Pyridazinedione, 1,2-dihydro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U149 | Malononitrile, Propanedinitrile | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| U150 | Melphalan, L-Phenylalanine, 4-[bis(2-chloroethyl)amino]- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U151 | Mercury | 42,120 | T | D80, T01, S01, S02, T02 | |
| U152 | Methacrylonitrile, 2-Propenenitrile, 2-methyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U153 | Methanethiol, Thiomethanol | 42,120 | T | D80, T01, S01, S02, T02 | |
| U154 | Methyl alcohol, Methanol | 42,120 | T | D80, T01, S01, S02, T02 | |
| U155 | Methapyrilene, 1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U156 | Methyl chlorocarbonate, Carbonochloridic acid, methyl ester | 42,120 | T | D80, T01, S01, S02, T02 | |
| U157 | 3-Methylcholanthrene, Benz[<i>j</i>]aceanthrylene, 1,2-dihydro-3-methyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U158 | 4,4'-Methylenebis(2-chloroaniline), Benzenamine, 4,4'-methylenebis(2-chloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U159 | Methyl ethyl ketone (MEK), 2-Butanone | 42,120 | T | D80, T01, S01, S02, T02 | |
| U160 | 2-Butanone, peroxide, Methyl ethyl ketone peroxide | 42,120 | T | D80, T01, S01, S02, T02 | |
| U161 | 4-Methyl-2-pentanone, Methyl isobutyl ketone, Pentanol, 4-methyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U161 | | 42,120 | T | D80, T01, S01, S02, T02 | |
| U162 | Methyl methacrylate, 2-Propenoic acid, 2-methyl-, methyl ester | 42,120 | T | D80, T01, S01, S02, T02 | |
| U163 | MNNG, Guanidine, N-methyl-N'-nitro-N-nitroso- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U164 | Methylthiouracil, 4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U165 | Naphthalene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U166 | 1,4-Naphthalenedione, 1,4-Naphthoquinone | 42,120 | T | D80, T01, S01, S02, T02 | |
| U167 | 1-Naphthalenamine, alpha-Naphthylamine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U168 | beta-Naphthylamine, 2-Naphthalenamine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U169 | Nitrobenzene, Benzene, nitro- | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|--|------------------------------------|-----------------|-------------------------|---------------------|
| U170 | p-Nitrophenol, Phenol, 4-nitro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U171 | Propane, 2-nitro-, 2-Nitropropane | 42,120 | T | D80, T01, S01, S02, T02 | |
| U172 | 1-Butanamine, N-butyl-N-nitroso-, N-Nitrosodi-n-butylamine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U173 | Ethanol, 2,2'-(nitrosoimino)bis-, N-Nitrosodiethanolamine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U174 | Ethanamine, N-ethyl-N-nitroso-, N-Nitrosodiethylamine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U176 | N-Nitroso-N-ethylurea, Urea, N-ethyl-N-nitroso- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U177 | Urea, N-methyl-N-nitroso-, N-Nitroso-N-methylurea | 42,120 | T | D80, T01, S01, S02, T02 | |
| U178 | Carbamic acid, methylnitroso-, ethyl ester, N-Nitroso-N-methylurethane | 42,120 | T | D80, T01, S01, S02, T02 | |
| U179 | N-Nitrosopiperidine, Piperidine, 1-nitroso- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U180 | N-Nitrosopyrrolidine, Pyrrolidine, 1-nitroso- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U181 | Benzenamine, 2-methyl-5-nitro-, 5-Nitro-o-toluidine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U182 | Paraldehyde, 1,3,5-Trioxane, 2,4,6-trimethyl- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U183 | Benzene, pentachloro-, Pentachlorobenzene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U184 | Ethane, pentachloro-, Pentachloroethane | 42,120 | T | D80, T01, S01, S02, T02 | |
| U185 | Benzene, pentachloronitro-, Pentachloronitrobenzene (PCNB) | 42,120 | T | D80, T01, S01, S02, T02 | |
| U186 | 1-Methylbutadiene, 1,3-Pentadiene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U187 | Acetamide, N-(4-ethoxyphenyl)-, Phenacetin | 42,120 | T | D80, T01, S01, S02, T02 | |
| U188 | Phenol | 42,120 | T | D80, T01, S01, S02, T02 | |
| U189 | Sulfur phosphide, Phosphorus sulfide | 42,120 | T | D80, T01, S01, S02, T02 | |
| U190 | 1,3-Isobenzofurandione, Phthalic anhydride | 42,120 | T | D80, T01, S01, S02, T02 | |
| U191 | 2-Picoline2-methyl-, Pyridine, 2-methyl- | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|--|------------------------------------|-----------------|-------------------------|---------------------|
| U192 | Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-, Pronamide | 42,120 | T | D80, T01, S01, S02, T02 | |
| U193 | 1,2-Oxathiolane, 2,2-dioxide, 1,3-Propane sultone | 42,120 | T | D80, T01, S01, S02, T02 | |
| U194 | n-Propylamine, 1-Propanamine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U196 | Pyridine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U197 | 2,5-Cyclohexadiene-1,4-dione, p-Benzoquinone | 42,120 | T | D80, T01, S01, S02, T02 | |
| U200 | Reserpine, Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U201 | 1,3-Benzenediol, Resorcinol | 42,120 | T | D80, T01, S01, S02, T02 | |
| U202 | 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts, Saccharin, & salts | 42,120 | T | D80, T01, S01, S02, T02 | |
| U203 | 1,3-Benzodioxole, 5-(2-propenyl)-, Safrole | 42,120 | T | D80, T01, S01, S02, T02 | |
| U204 | Selenium dioxide, Selenious acid | 42,120 | T | D80, T01, S01, S02, T02 | |
| U205 | Selenium sulfide, Selenium sulfide SeS ₂ | 42,120 | T | D80, T01, S01, S02, T02 | |
| U206 | D-Glucose, 2-deoxy-2-[(methylnitrosoamino)-...carbonyl]amino]-, Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-, Streptozotocin | 42,120 | T | D80, T01, S01, S02, T02 | |
| U207 | Benzene, 1,2,4,5-tetrachloro-, 1,2,4,5-Tetrachlorobenzene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U208 | Ethane, 1,1,1,2-tetrachloro-, 1,1,1,2-Tetrachloroethane | 42,120 | T | D80, T01, S01, S02, T02 | |
| U209 | Ethane, 1,1,2,2-tetrachloro-, 1,1,2,2-Tetrachloroethane | 42,120 | T | D80, T01, S01, S02, T02 | |
| U210 | Ethene, tetrachloro-, Tetrachloroethylene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U211 | Carbon tetrachloride, Methane, tetrachloro- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U213 | Furan, tetrahydro-, Tetrahydrofuran | 42,120 | T | D80, T01, S01, S02, T02 | |
| U214 | Acetic acid, thallium(I+) salt, Thallium(I) acetate | 42,120 | T | D80, T01, S01, S02, T02 | |
| U215 | Carbonic acid, dithallium(I+) salt, Thallium(I) carbonate | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|--|------------------------------------|-----------------|-------------------------|---------------------|
| U216 | Thallium(I) chloride, Thallium chloride TlCl | 42,120 | T | D80, T01, S01, S02, T02 | |
| U217 | Nitric acid, thallium(1+) salt, Thallium(I) nitrate | 42,120 | T | D80, T01, S01, S02, T02 | |
| U218 | Ethanethioamide, Thioacetamide | 42,120 | T | D80, T01, S01, S02, T02 | |
| U219 | Thiourea | 42,120 | T | D80, T01, S01, S02, T02 | |
| U220 | Benzene, methyl-, Toluene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U221 | Benzenediamine, ar-methyl-, Toluenediamine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U222 | Benzenamine, 2-methyl-, hydrochloride, o-Toluidine hydrochloride | 42,120 | T | D80, T01, S01, S02, T02 | |
| U223 | Benzene, 1,3-diisocyanatomethyl-, Toluene diisocyanate | 42,120 | T | D80, T01, S01, S02, T02 | |
| U225 | Bromoform, Methane, tribromo- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U226 | Ethane, 1,1,1-trichloro-, Methyl chloroform | 42,120 | T | D80, T01, S01, S02, T02 | |
| U227 | Ethane, 1,1,2-trichloro-, 1,1,2-Trichloroethane | 42,120 | T | D80, T01, S01, S02, T02 | |
| U228 | Ethene, trichloro-, Trichloroethylene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U234 | Benzene, 1,3,5-trinitro-, 1,3,5-Trinitrobenzene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U235 | Tris(2,3-dibromopropyl) phosphate, 1-Propanol, 2,3-dibromo-, phosphate (3:1) | 42,120 | T | D80, T01, S01, S02, T02 | |
| U236 | 2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl [1,1'-biphenyl]-4,4'-diyl)bis(azo)bis [5-amino-4-hydroxy]-, tetrasodium salt, Trypan blue | 42,120 | T | D80, T01, S01, S02, T02 | |
| U237 | Uracil mustard, 2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U238 | Ethyl carbamate (urethane), Carbamic acid, ethyl ester | 42,120 | T | D80, T01, S01, S02, T02 | |
| U239 | Benzene, dimethyl-, Xylene | 42,120 | T | D80, T01, S01, S02, T02 | |
| U240 | 2,4-D, salts & esters, Acetic acid, (2,4-dichlorophenoxy)-, salts & esters | 42,120 | T | D80, T01, S01, S02, T02 | |
| U243 | Hexachloropropene, 1-Propene, 1,1,2,3,3,3-hexachloro- | 42,120 | T | D80, T01, S01, S02, T02 | |

XIV DESCRIPTION OF HAZARDOUS WASTES

| EPA CODE | CHARACTERISTIC OR CONTAMINANT | ESTIMATED ANNUAL QUANTITY OF WASTE | UNIT OF MEASURE | PROCESS CODES | PROCESS DESCRIPTION |
|----------|---|------------------------------------|-----------------|-------------------------|---------------------|
| U244 | Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl-, Thiram | 42,120 | T | D80, T01, S01, S02, T02 | |
| U246 | Cyanogen bromide (CN)Br | 42,120 | T | D80, T01, S01, S02, T02 | |
| U247 | Methoxychlor, Benzene, 1,1'-(2,2,2-trichloroethylidene)bis [4-methoxy- | 42,120 | T | D80, T01, S01, S02, T02 | |
| U248 | 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations of 0.3% or less, Warfarin, & salts, when present at concentrations of 0.3% or less | 42,120 | T | D80, T01, S01, S02, T02 | |
| U249 | Zinc phosphide Zn_3P_2 , when present at concentrations of 10% or less | 42,120 | T | D80, T01, S01, S02, T02 | |
| U328 | Benzenamine, 2-methyl-, o-Toluidine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U353 | Benzenamine, 4-methyl-, p-Toluidine | 42,120 | T | D80, T01, S01, S02, T02 | |
| U359 | Ethylene glycol monoethyl ether, Ethanol, 2-ethoxy- | 42,120 | T | D80, T01, S01, S02, T02 | |

II.A.3. Zoning

The Permittee shall submit to the Secretary a copy of the appropriate zoning change for the Facility site approved by the appropriate Chaves County authorities as specified at Permit Attachment A, Section 1.3, *Location Information*, before initiation of operations at the Facility, in accordance with Permit Condition I.J.

II.B. PERMITTED AND PROHIBITED WASTE

II.B.1. Permitted Waste

The Permittee shall accept only the hazardous wastes identified at Permit Attachment B, *Permit Application, Part A*, as listed at Table II-1.

II.B.2. Prohibited Waste

II.B.2.a. Prohibited waste streams

As specified at Permit Attachment A, Section 2.5.1.1, *Nature and Quantity of Waste*, and Permit Attachment D, *Waste Analysis Plan*, Section 4.2.2, *Prohibited Waste*, the Permittee is prohibited from accepting, storing, treating, or disposing of the following wastes:

- radioactive/nuclear wastes;
- dioxin-contaminated wastes (F020, F021, F023, F026, and F027 wastes);
- medical wastes;
- municipal solid wastes, except small quantity generator waste;
- construction and demolition debris;
- explosive wastes;
- compressed gases;
- ignitable liquids;

liquid wastes containing polychlorinated biphenyls (PCBs) that are ignitable and/or with a concentration greater than or equal to 50 parts per million (ppm);

soils containing PCBs with a concentration greater than 500 ppm;

special wastes, except sludges; and

unknown or unidentified wastes.

II.B.2.b. Other prohibited waste streams

II.B.2.b.i. PCB-contaminated soils

The Permittee is prohibited from managing soils containing PCBs at a concentration equal to or greater than 500 ppm until a Permit from EPA for management of these Toxic Substances Control Act (TSCA) wastes is obtained, as specified at Permit Attachment D, Section 4.2.1, *Eligible Waste*. A copy of such Permit shall be transmitted to the Secretary.

II.B.2.b.ii. Radioactive hazardous waste streams

The Permittee is prohibited from managing naturally occurring radioactive material (NORM) or equipment from oil, gas, and water production containing hazardous constituents unless it is exempt from the requirements of the New Mexico Radioactive Materials and Radiation Machines Regulations, 20 NMAC 3.1, Subpart 14, i.e., the maximum radiation exposure reading at any accessible point does not exceed 50 microroentgens per hour ($\mu\text{R/hr}$), and the maximum radiation reading for sludges and scales contained in oil, gas, and water production equipment does not exceed 50 $\mu\text{R/hr}$, or, if the radiation readings for removable sludges and scales exceed 50 $\mu\text{R/hr}$, the concentration of Radium 226, in a representative sample, does not exceed 30 picocuries per gram (pCi/g).

II.B.2.c. Wastes prohibited from specific units

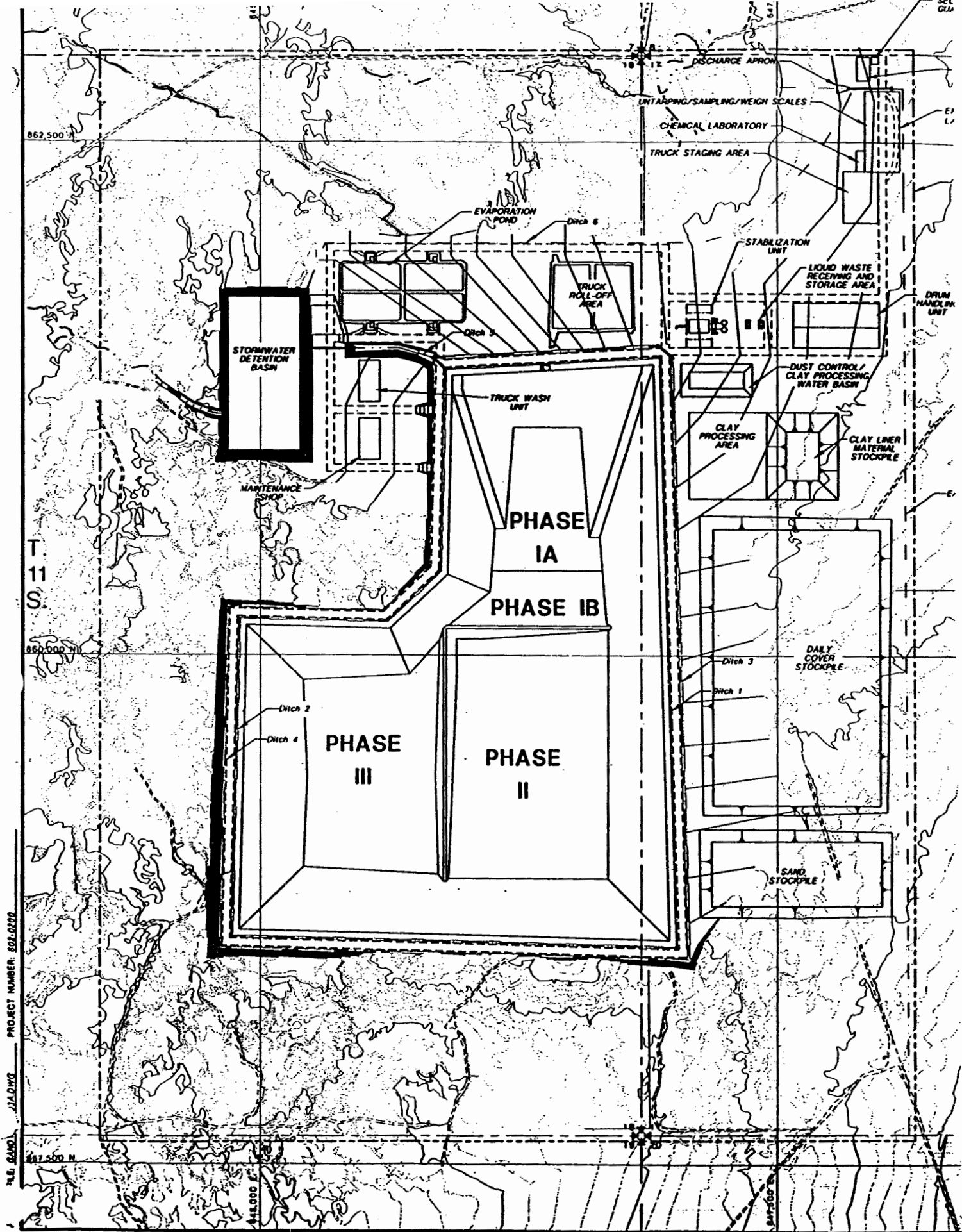
The Permittee is prohibited from managing specific wastes in specific units as required under Permit Conditions III.A.4., IV.A.4., V.ee., and VI.ff.
[Permit Conditions to be inserted when identified.]

MODULE II

ENCLOSURE 3

New Mexico Environment Department
Hazardous and Radioactive Materials Bureau

Letter: New Mexico State Fire Marshal's Office
May 5, 2000



ENCLOSURE 4

New Mexico Environment Department
Hazardous and Radioactive Materials Bureau

Letter: New Mexico State Fire Marshal's Office
May 5, 2000

**DIMENSION OF PROPOSED PERMITTED UNITS
TRIASSIC PARK HAZARDOUS WASTE DISPOSAL FACILITY**

| <u>Units</u> | <u>Dimensions</u> | <u>Maximum Allowable Capacity</u> |
|-----------------------------------|---|--|
| Drum Handling Unit | | |
| 7 cells | 52 ft by 63 ft/ cell | 160 55-gal drums or equivalent/cell Total: 1,120 55-gal drums or equivalent (61,000 gal) |
| Roll-Off Container Unit | | |
| 2 cells | 220 ft by 160 ft/cell | 44 20-yd ³ roll-off containers or roll-off container equivalent (880 yd ³)/cell Total: 88 20-yd ³ roll-off containers or roll-off container equivalent (1,760 yd ³) |
| Liquid Waste Storage Tanks | | |
| 4 tanks | 10 ft by 16 ft (diameter)/tank | 9,000 gal/tank Total: 36,000 gal |
| Treatment Tanks | | |
| 4 bins | 25 ft by 10 ft by 10 ft/ stabilization bin | 2,500 ft ³ /bin Total: 10,000 ft ³ |
| Surface Impoundment | | |
| 2 cells | 78,600 feet (combined area) | Total: 5.2 million gal |
| Landfill | | |
| Phase 1A | 47 acres | 553,200 yd ³ |

ENCLOSURE 5

New Mexico Environment Department
Hazardous and Radioactive Materials Bureau

Letter: New Mexico State Fire Marshal's Office
May 5, 2000

5.3.3 Emergency Equipment

Emergency response equipment at the Facility includes fire extinguishers and other fire control equipment, spill cleanup kits, and decontamination kits. Each processing area regulated storage unit will be equipped with fire control and spill response equipment. Equipment in the stabilization unit will be used for the tank storage area and roll-off storage area because of their close proximity. A detailed description of this equipment, including the content and type, is included in Appendix M in Volume II and is discussed in the Contingency Plan contained in Section 6.0.

A complete list of the contents and location of the various types of kits will be maintained in the EC's office at the Facility.

5.3.4 Water for Fire Control

Permanent buildings at the Facility will be equipped with automatic sprinkler systems and fire extinguishers, as required by the National Fire Protection Association (NFPA) code. The sprinkler systems will be designed according to NFPA guidelines. Water to fight fires outside of buildings and the landfill will be available in water truck(s). It is expected that landfill fires, in the unlikely event that they occur, will be extinguished with a dirt cover. A ready supply of dirt will be available at the excavation stockpile and landfill and general facility equipment (dozers, loaders and scrapers) will be available to load, haul and place dirt.

5.3.5 Required Aisle Space

The aisle between double rows of containers in the drum handling unit will be 30 inches wide, and roll-off containers will be placed 4 feet apart and 4 feet from the edge of the berm. Such spacing will allow for the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment in the event of an emergency. Drums will only be staked one high.

5.3.6 Arrangements with Local Authorities

The Facility will make arrangements with local authorities as described in the Contingency Plan (see Section 6.0).

5.4 PREVENTIVE PROCEDURES, STRUCTURES, AND EQUIPMENT

To prevent accidents at the Facility, all individuals responsible for material and waste handling will receive classroom and on-the-job instruction in safety awareness, recognition of potential hazards in the work place, environmental procedures and policies, and fire prevention and control procedures. Individuals who may come in contact with hazardous waste will receive Occupational Safety and Health Administration (OSHA) 40-hour training. These individuals also will be trained in the operation of the equipment and vehicles they will be using to perform their duties.

Safety meetings will be conducted as necessary to discuss safety issues, fire prevention and control, good housekeeping and any problems relating to specific areas of the site.

5.4.1 Loading, Unloading, and Waste Transfer Operations

To prevent accidents during loading, unloading, and waste transfer, hazardous waste will be handled only by those individuals who have been properly trained in correct handling procedures and proper

This submittal supersedes all previous information.

The run-off management system will be capable of collecting the water volume resulting from at least a 24-hour, 25-year storm. Run-off in the active portion of the landfill will be collected in the LCRS. The run-on and run-off control system for the landfill is described in greater detail in Section 2.5.1.6.

The area surrounding the evaporation pond will be graded to carry stormwater run-off towards the drainage ditch to the south of the evaporation pond area. This ditch will ultimately empty into the site stormwater detention pond. The perimeter of the evaporation pond is elevated to prevent stormwater run-on into the pond from surrounding areas.

Inspection of the run-off and run-on ditches for the landfill and evaporation pond will be made during daily and weekly site inspections.

5.4.3 Wind Dispersal Control System

The active portion of the landfill will either be covered or managed to control the wind dispersal. In general, dust control will be accomplished by spraying water on the active portion of the landfill and any road or area subject to wind dispersal. Adding water to prevent wind erosion will be limited so that ponding in the landfill does not occur. Additional detail about wind dispersal procedures can be found in Section 2.5.1.7.

5.4.4 Water Supply Protection

The Facility will coordinate intended water use with the State Engineer's Office, Water Rights Division, and other appropriate agencies. The domestic water supply (via underground water line from a spring in the Ogallala formation located approximately one mile east of the Facility) will be protected by the following: (1) natural means because of its location; (2) the design of the landfill; (3) the type of waste that will be accepted at the Facility; and (4) the method of response to releases to soil. Each is discussed in more detail below.

Natural geologic and hydrologic conditions in the area include the following characteristics.

- the Upper Dockum unit is unsaturated beneath the selected site;
- the Lower Dockum consists of a 600-foot thickness of homogeneous, lacustrine mudstone. This sequence of unsaturated, low permeability mudstones represents a geologic barrier to potential downward migration of contaminants from the landfill (see Section 3.0); and,
- the nearest surface water is the Pecos River, approximately 30 miles to the west of the Facility.

The landfill design includes removal of the 10-foot deep layer of alluvial material on the surface of the disposal site prior to construction of the cells, thus eliminating the possibility of hazardous constituents entering the alluvium and migrating away from the Facility.

Free liquid hazardous waste will be placed in the landfill only in accordance with 40 CFR 264.314(d). In addition, no non-hazardous liquid waste will be placed in the landfill. These limitations on the introduction of liquids into the landfill will minimize the generation of leachates and the potential for the migration of any hazardous constituents from the Facility.

This submittal supersedes all previous information.

6.3.3 Assessment of Hazard

Concurrent with the waste identification and characterization phase of the emergency response, the EC will assess possible hazards to human health or the environment that may result from the emergency situation. Indirect and direct effects of the release, fire, or explosion will be considered during this assessment. Examples of direct and indirect effects include the impacts of any toxic, irritating, or asphyxiating gases that are generated or the effects of any hazardous surface water runoff from water or chemical agents used to control a fire.

During this phase of the emergency response, the EC will consider the following information to determine potential risk to human health or the environment:

- the location from which the material or waste is emanating;
- the weather patterns and wind direction at the time of the release; and,
- the characteristics of the released material, including physical, reactive, and human or animal toxicity.

The EC may choose to obtain emergency response guidance by contacting one or more of the emergency response organizations listed in Appendix J (Volume II) or by utilizing various spill control reference textbooks and MSDSs located in the EC's office.

6.3.4 Off Site Notification and Evacuation Criteria

If the EC determines that a release, fire, or explosion has occurred at the Facility that poses an immediate threat to onsite or off site human health and/or the environment, the findings will be reported to appropriate response personnel as follows:

- local authorities will be immediately notified if an emergency incident at the Facility could affect local areas and if evacuation of these areas is necessary. The EC will be available to assist appropriate officials in deciding whether local areas should be evacuated (evacuation plans are provided in Appendix L, Volume II); and,
- the local authorities will be notified with the following information:
 - ◊ the name and telephone number of the reporter;
 - ◊ the name and address of the Facility;
 - ◊ the time and type of incident that occurred;
 - ◊ the name and quantity of material(s) involved, to the extent that this is known;
 - ◊ the extent of injuries, if any; and,
 - ◊ the possible hazards to human health or the environment outside the Facility.

Coordinating agreements will be signed with federal, state, and local emergency response organizations. The agencies with which the Facility will enter these agreements are listed in

This submittal supersedes all previous information

Appendix J presented in Volume II. The agreements outline the conditions under which the agencies will be contacted and the roles they will assume during various emergency scenarios at the Facility. The agreements establish the EC as the lead coordinator of all emergency response activities at the Facility. The details of these agreements will be located in the EC's office and with each of the participating organizations. The agreements will be considered controlled documents and will be kept current by updating all copies each time a change is made. This ensures a coordinated response to all emergency situations.

The EC may contact one or more of the agencies, such as police, fire departments, or hospitals, as listed in Appendix J (Volume II), if additional assistance is needed at the site to protect community populations.

6.3.5 Response and Control Procedures

Following proper notification of agencies and/or evacuation of the Facility, the EC will initiate response and control procedures. This effort will involve the use of emergency equipment, which is listed in Appendix M in Volume II. This list also includes equipment descriptions and locations.

Potential incidents for which response and control procedures are necessary will be grouped into three broad categories: (1) fires and/or explosions; (2) spills, leaks, or other releases; and (3) power failures. A brief discussion of emergency training requirements and the general procedures for handling each of these situations are described in the following sections.

Facility personnel and supervisors will receive safety training to enable them to respond to and handle various emergency situations that are not of a serious nature. In addition to this training, employees will participate in emergency response drills on a periodic basis. These drills will involve both internal responses and those response actions taken in conjunction with external emergency response personnel. Key personnel will be familiar with the use of emergency equipment and fire control structures available to prevent the spread of fires in their areas. To prevent recurrence of an incident, any faulty or defective monitoring equipment, valves, pumps, alarms, or other equipment will be repaired. If repair is not possible, the equipment will be replaced. The unit will not receive hazardous waste until the minimum required equipment for safe operation is fully functional.

Procedures for ensuring that incompatible wastes are not treated, stored, or located in areas where a spill has occurred are addressed in Section 6.3.7.

6.3.5.1 Fire and/or Explosion Control Procedure

If a fire or explosion occurs at the Facility that may impact an active hazardous waste management unit or hazardous material storage area, the Contingency Plan will be immediately implemented, as outlined in Section 6.3. The EC will assess the situation and direct the emergency response effort. The EC will also be responsible for advising emergency response personnel of the hazards associated with released materials and other areas that should be protected from the effects of the incident.

In the event that a fire cannot be brought immediately under control and hazardous waste or material are located in the path of the fire or in an otherwise dangerous place, the waste or materials will be relocated to a safer area, if possible. If this is not possible, the material may be sprayed with an appropriate fire suppressant, at the direction of the EC or under the advisement of fire department personnel.

This submittal supersedes all previous information

If an explosion is likely to occur, for example because a fire threatens to envelop ignitable waste, the EC may choose to evacuate the area, as described in Appendix L presented in Volume II.

Facility employees will be trained and advised to stay in their work areas during emergency situations, unless they are in immediate danger, until they receive further direction via the PA system or other method of communication. If evacuation is necessary, the EC will communicate this via the PA system and by other means, as necessary, and all employees will assemble at the administration building. If anyone is unaccounted for, emergency response personnel will conduct searches.

After the effected areas have been evacuated, re-entry will be authorized by the EC only after the fire has been extinguished and when the emergency has been resolved.

Any equipment used during the incident will be checked for contamination and cleaned and/or replaced prior to resumption of plant operations in the affected area. Any solutions or materials used to decontaminate the equipment will be managed as RCRA-regulated waste.

6.3.5.2 Spills, Leaks, or Other Releases Control Procedure

All areas in which liquids are stored, managed, or potentially encountered (including tanks, containers, or secondary containment areas) will be inspected regularly for leaks, spills, deterioration, or damage in order to reduce the likelihood of an incident. However, on occasion, such incidents may still occur. This section describes the procedures for responding to spills, leaks, or other releases to containment areas or to the environment.

If Facility employees observe a spill, leak, or other release, whether during a formal inspection or during routine work, they will be instructed to contact the EC immediately and describe the situation in as much detail as possible, giving the following information, at a minimum:

- the location;
- material composition;
- approximate quantity; and,
- estimated extent of the release.

Based on this information (and additional investigation by the EC as necessary), the EC will determine whether to evacuate the area and/or implement the Contingency Plan.

As previously stated, if the EC is not available and if the situation is serious or life-threatening, employees will be instructed to dial 911 for emergency assistance. In a life threatening situation personnel may call 911 without first notifying the EC. The EC will then be notified of the employee's actions. Upon notification, the EC will conduct a visual inspection of the release and will then implement immediate containment measures.

Releases Within Containment

The EC will implement the following procedures for responding to leaks or spills from tank systems or containers into secondary containment areas that are not likely to reach the environment:

This submittal supersedes all previous information

Solid Waste



Hazardous Waste Storage and Disposal in Geologic Repositories

Permit Guidance Under the Resource Conservation and Recovery Act

SECTION 7.0 WASTE CHARACTERIZATION

Facility owners and operators must, at a minimum, obtain a detailed chemical and physical analysis of each waste managed that contains all the information that must be known to treat, store, or dispose of the wastes in accordance with applicable 40 CFR 264 regulations and the facility's permit conditions (40 CFR 264.13). This section identifies general waste analysis requirements applicable to all disposal facilities and suggests several parameters appropriate for wastes to be placed in geologic repositories.

Extensive guidance is available describing the development and implementation of waste analysis plans. Three EPA publications that should be consulted in the development of waste analysis plans are:

- o *Waste Analysis Plans - A Guidance Manual*
- o *A Method for Determining the Compatibility of Hazardous Wastes*
- o *Test Methods for Evaluating Solid Wastes-Physical/Chemical Methods (SW-846)*

The latter document provides detailed sampling and analysis procedures that should be used in characterizing hazardous wastes.

The Part B application for a geologic repository must contain a listing of the pertinent physical and chemical properties of every waste type to be received for treatment and/or disposal, as well as a plan for verifying the content of wastes as they are received for treatment/disposal or are generated. The actual wastes placed in the repository may not necessarily correspond to the initial wastes

characterized in the Part B permit application, but the owners or operators should, however, identify the physical and chemical properties of the wastes to be placed in the repository and any limits on waste types appropriate to assuring safe operation of the repository. Of particular concern are those waste properties that could impact waste mobility or repository stability, such as volatility, reactivity, corrosivity, solubility in water and susceptibility to phase or species transformation.

7.1 SUGGESTED CHARACTERIZATIONS AND WASTE LIMITATIONS

Certain waste characteristics may produce undesirable results in the repository environment, either during the facility's active life or after closure. The limitations relevant to the repository must be identified and the wastes analyzed to assure that tolerance levels are not exceeded.

7.1.1 Reactivity

No wastes should be placed in repositories that are explosive or shock sensitive. Wastes that could react to produce toxic gases (such as cyanide- or sulfide-bearing wastes) should also be excluded. Other waste reactivity characteristics should be assessed on a case-by-case basis to determine if the reaction products (e.g., heat or innocuous gases) could present a worker safety threat or compromise the repository's structural integrity or isolation characteristics. Gas generation is a significant concern after closure of the repository if the potential exists to produce back-pressures that could rupture seals or induce rock-mass fractures.

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1 STATE OF NEW
MEXICO

2 BEFORE THE SECRETARY OF
ENVIRONMENT

3 No. HRM 01-
02(P)

4
5 IN THE MATTER OF THE DRAFT
6 FINAL PERMIT FOR THE TRIASSIC PARK
WASTE DISPOSAL FACILITY
US EPA NO. 0001002484

7
8
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10
11
12 TRANSCRIPT OF PROCEEDINGS

13
14 VOLUME 2

15
16
17 BE IT REMEMBERED that on the 17th day
of
October,

18 2001, this matter came on for hearing before
FELICIA

19 ORTH, Hearing Officer, at the Roswell

1 laboratory to perform chemical sampling analysis?

2 A. As part of the evaluation of information coming
3 from a site, any site, there is chemical data with that,
4 and there are criteria in the permit that they're going
5 to be evaluating this information against. So from that
6 perspective, they would have to be able to satisfy the
7 evaluation criteria.

8 MS. MC MICHAEL: Thank you.

9 MS. ORTH: Thank you.

10 MR. DOMENICI: Can I follow up?

11 MS. ORTH: Yes. Mr. Domenici.

12 RECROSS EXAMINATION

13 BY MR. DOMENICI:

14 Q. Just on this foreign waste issue, are you aware
15 or familiar with circumstances where an importer accepts
16 foreign waste and characterizes it as a generator?

17 A. Am I aware of that?

18 I am not an expert by any means on foreign
19 importation of waste, so I can't say that I am aware of
20 that.

21 Q. Are you aware that importing waste from Mexico
22 would require a US generator number to be provided by
23 someone?

24 A. I'm not familiar with those requirements. I am
25 not familiar with those requirements.

KATHY TOWNSEND COURT REPORTERS (505) 243-5018
110 Twelfth Street, NW, Albuquerque, NM 87102

1 Q. I think your testimony was that the waste
2 analysis plan would -- I don't want to mischaracterize
3 it, but somehow would protect the RCRA requirements at
4 this facility regardless of the location of where the
5 waste came from?

6 A. Speaking internally within the United States,
7 certainly.

8 I have no knowledge, and I am not an expert in
9 waste being imported from outside the United States to
10 facilities, so I would hesitate to make a judgment
11 concerning the specific requirements, other than the fact
12 that I can say that because the permit requires a
13 generator, whoever that might be, to follow the waste
14 analysis plan.

15 The specifics on this I cannot testify to in
16 terms of the detail and legality of shipping across the
17 border. I can't testify.

18 Q. But if the generator, wherever they are,
19 satisfies the waste analysis plan -- the requirements of
20 the waste analysis plan, then you would be satisfied?

21 A. From my limited perspective.

22 MR. DOMENICI: Thank you.

23 MS. ORTH: Nothing else?

24 Okay.

25 Ms. Green? Nothing?

KATHY TOWNSEND COURT REPORTERS (505) 243-5018
110 Twelfth Street, NW, Albuquerque, NM 87102

**STATE OF NEW MEXICO
BEFORE THE SECRETARY OF ENVIRONMENT**

**IN THE MATTER OF THE DRAFT FINAL
PERMIT FOR THE TRIASSIC PARK
WASTE DISPOSAL FACILITY
U.S. EPA NO. NM0001002484**

No. HRM 01-02 (P)

HEARING OFFICER'S REPORT

I. INTRODUCTION

Applicant Gandy Marley, Inc., ("GMP" or "Applicant") seeks a hazardous waste disposal facility permit for a facility located near Roswell in Chaves County, New Mexico. The New Mexico Environment Department (NMED) Hazardous Waste Bureau (Bureau) supports the issuance of the permit with conditions necessary to protect public health and welfare and the environment.

This matter was heard between October 15 and 19, 2001, in Roswell, New Mexico. The Bureau was represented by Susan McMichael, Claybourne Clark and Julia Mullen of NMED's Office of General Counsel, along with Charlotte Robinson, a contract attorney; and the Bureau's position was presented by staff members Stephen Pullen and David Cobrain, and RCRA consultants Constance Walker, Stephen Druschel and June Dreith.

Those present on behalf of the Applicant included attorneys Pete Domenici, Jr. and, briefly, Dan Dolan; engineer Patrick Corser; geologist Jim Bonner; zoologist/ecologist Joe Merino; meteorologist R.C. Cudney and toxicologist Albert Westerman; governmental relations consultant Ken Schultz; and GMI officers and directors Dale Gandy, Larry Gandy, and Mark Marley.

Article XI, titled "Hazardous Waste Generated From Raw Materials Admitted In-Bond" is the article relevant here: "Hazardous waste generated in the processes of economic production, manufacturing, processing or repair, for which raw materials were utilized and temporarily admitted, shall continue to be readmitted by the country of origin of the raw materials in accordance with applicable national policies, laws and regulations."

This article appears to have been based on Article 55 of the Mexican Environmental General Law requiring that hazardous waste generated by the U.S. manufacturing plants in Mexico ("maquiladoras") using duty-free "in bond" raw materials must be returned to the country of origin for disposal, minus, of course, the amount of "in-bond" material returned as finished product and with some allowance for shrinkage, depending upon the material.

I believe it's appropriate to take notice that this is the same article that forms the legal basis for the acceptance of the waste this agency defines as "solid waste" from Mexico at state-permitted facilities such as the Camino Real Landfill in Sunland Park.

I have also reviewed the RCRA regulations on the export/import of hazardous waste, and agree with GMI's description of the applicable requirements (GMI pp. 22-23): foreign waste must be imported by a U.S. "generator." (40 CFR 262.60(a)) The waste is dually manifested by the foreign generator (40 CFR 262.60(b)(1)) and the U.S. generator (40 CFR 262.60(b)(2)). Absent both manifests and other required approval and notifications, the facility cannot accept the foreign waste. Properly manifested and delivered, however, the facility would be accepting waste from a legally authorized U.S. "generator." The Bureau's consultant on the waste analysis plan, Ms. Walker, agreed

that the permit requires a "generator" to follow the waste analysis plan, whether that generator is in the U.S. or has accepted waste from outside the U.S. (TR. 857-859)

I do not see the legal basis for excluding waste delivered to the facility by a U.S. "generator" in circumstances where that generator has received foreign waste, has met the requirements of the waste analysis plan, and the manifests are in order.

This is the one topic on which I received something like closing argument from the Bureau (see tab ii), and I have considered the arguments made there but still do not see the legal basis for excluding maquiladoras waste. The fact that the Bureau did not originally understand the permit application to seek the ability to accept foreign waste under the La Paz Agreement does not preclude its clarification at this point, particularly when the Applicant raised the issue before hearing and many who made comments in the hearing assumed it was part of the proposal. Mr. Corser did, as the Bureau notes, testify that he has no knowledge about whether facilities in Mexico have the capability to conduct sampling and analysis; this does not mean that they do not. The fact that the GMI permit does not now contain a procedure or process for the return of hazardous waste to Mexico where GMI is unable to accept it for failure to meet waste characterization requirements is not a basis for excluding the waste from acceptance; such a provision can be drafted now, if the Secretary agrees that the waste may be accepted, and if such a provision is necessary, beyond assuring that the waste would be separated and returned to the generator, as any unacceptable waste would be, foreign or not, with notification to NMED.

CARD included some discussion of this issue as well (CARD, pp. 51-52), focusing on the August 2001 final authorization of New Mexico's hazardous waste

WASTE ISOLATION PILOT PLANT

RCRA PART B PERMIT APPLICATION

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^aRegulatory citations are made using New Mexico Administrative Code RCRA regulations current through September 23, 1994.

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^aRegulatory citations are made using New Mexico Administrative Code RCRA regulations current through September 23, 1994.

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^aRegulatory citations are made using New Mexico Administrative Code RCRA regulations current through September 23, 1994.

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^aRegulatory citations are made using New Mexico Administrative Code RCRA regulations current through September 23, 1994.

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^aRegulatory citations are made using New Mexico Administrative Code RCRA regulations current through September 23, 1994.

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| F-2b(9) | Miscellaneous Unit Inspection | Subpart V, §264.602 |
| F-3 | Waiver or Documentation of Preparedness and Prevention Requirements | Subpart V, §264.32 Subpart V, §264.34 Subpart V, §264.35 Subpart IX, §270.14(b)(6) |
| F-3a | Equipment Requirements | Subpart V, §264.32 Subpart V, §264.34 Subpart IX, §270.14(b)(6) |
| F-3a(1) | Internal Communications | Subpart V, §264.32(a) Subpart V, §264.34(a) Subpart IX, §270.14(b)(6) |
| F-3a(2) | External Communications | Subpart V, §264.32(b) Subpart V, §264.34(b) Subpart IX, §270.14(b)(6) |
| F-3a(3) | Emergency Equipment | Subpart V, §264.32(c) Subpart IX, §270.14(b)(6) |
| F-3a(4) | Water for Fire Control | Subpart V, §264.32(d) Subpart IX, §270.14(b)(6) Subpart IX, §270.14(b)(19)(x) |
| F-3b | Aisle Space Requirement | Subpart V, §264.35 |
| F-4 | Preventive Procedures, Structures, and Equipment | Subpart IX, §270.14(b)(8) |
| F-4a | Unloading Operations | Subpart IX, §270.14(b)(8)(i) |

^aRegulatory citations are made using New Mexico Administrative Code RCRA regulations current through September 23, 1994.

**NEW MEXICO ADMINISTRATIVE CODE, TITLE 20 CHAPTER 4, PART 1
REGULATIONS (20 NMAC 4.1) CROSS-REFERENCE TABLE^a (CONTINUED)**

| Chapter | Title | 20 NMAC 4.1, Subpart or Section, or Appendix |
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| F-4b | Runoff | Subpart IX, §270.14(b)(8)(ii) Subpart IX, §270.14(b)(19)(x) Subpart IX, §270.14(b)(19)(xi) |
| F-4c | Water Supplies | Subpart IX, §270.14(b)(8)(iii) |
| F-4d | Equipment and Power Failure | Subpart IX, §270.14(b)(8)(iv) |
| F-4e | Personnel Protection | Subpart IX, §270.14(b)(8)(v) |
| F-4f | Releases to Atmosphere | Subpart IX, §270.14(b)(8)(vi) |
| F-4g | Flammable Gas Concentration Control | Subpart V, §264.17 Subpart IX, §270.14(b)(9) |
| F-5 | Prevention of Reaction of Ignitable, Reactive, and Incompatible Waste | Subpart V, §264.17 Subpart IX, §270.14(b)(9) Subpart IX, §270.15(c) |
| G | RCRA CONTINGENCY PLAN | Subpart V, §264.51 Subpart IX, §270.14(b)(7) |
| G-1 | General Information | Subpart III, §262.34 Subpart V, §264.51 Subpart V, §264.52 Subpart IX, §270.14(b)(7) |
| G-2 | Response Personnel | Subpart V, §264.52(d) Subpart V, §264.55 Subpart IX, §270.14(b)(7) |
| G-3 | Implementation | Subpart V, §264.51(b) Subpart V, §264.52(a) Subpart IX, §270.14(b)(7) |
| G-4 | Emergency Response Method | Subpart V, §264.52(a) Subpart IX, §270.14(b)(7) |
| G-4a | Notification | Subpart V, §264.56(a) Subpart V, §264.56(d) Subpart V, §264.56(i) Subpart V, §264.56(j) Subpart IX, §270.14(b)(7) |
| G-4b | Identification of Hazardous Materials | Subpart V, §264.56(b) Subpart IX, §270.14(b)(7) |
| G-4c | Assessment of the Nature and Extent of the Emergency | Subpart V, §264.56(c) Subpart IX, §270.14(b)(7) |

^aRegulatory citations are made using New Mexico Administrative Code RCRA regulations current through September 23, 1994.

**NEW MEXICO ADMINISTRATIVE CODE, TITLE 20 CHAPTER 4, PART 1
REGULATIONS (20 NMAC 4.1) CROSS-REFERENCE TABLE* (CONTINUED)**

| Chapter | Title | 20 NMAC 4.1, Subpart or Section, or Appendix |
|---------|--|---|
| G-4d | Control, Containment, and Correction of the Emergency | Subpart V, §264.51 Subpart V, §264.56(e) Subpart V, §264.56(f) Subpart IX, §270.14(b)(7) |
| G-4e | Prevention of Recurrence or Spread of Fires, Explosions, or Releases | Subpart V, §264.56(e) Subpart V, §264.56(f) Subpart IX, §270.14(b)(7) |
| G-4f | Management and Containment of Released Material and Waste | Subpart V, §264.56(g) Subpart IX, §270.14(b)(7) |
| G-4g | Incompatible Waste | Subpart V, §264.56(h)(1) Subpart IX, §270.14(b)(7) |
| G-4h | Post-Emergency Facility and Equipment Maintenance and Reporting | Subpart V, §264.56(h)(2) Subpart V, §264.56(i) Subpart IX, §270.14(b)(7) |
| G-4i | Container Spills and Leakage | Subpart V, §264.171 Subpart IX, §270.14(b)(7) |
| G-4j | Tank Spills and Leakage | Subpart V, §264.196 Subpart IX, §270.14(b)(7) |
| G-4k | Surface Impoundment Spills and Leakage | Subpart V, §264.227 Subpart IX, §270.14(b)(7) |
| G-5 | Emergency Equipment | Subpart V, §264.52(e) |
| G-6 | Coordination Agreements | Subpart V, §264.52(c) |
| G-7 | Evacuation Plan | Subpart V, §264.52(f) |
| G-7a | Surface Evacuation One-site and Off-site Staging Areas | Subpart V, §264.52(f) |
| G-7b | Underground Assembly Areas and Egress Hoist Stations | Subpart V, §264.52(f) |
| G-7c | Plan for Surface Evacuation | Subpart V, §264.52(f) |
| G-7d | Plan for Underground Evacuation | Subpart V, §264.52(f) |
| G-7e | Further Site Evacuation | Subpart V, §264.52(f) |
| G-8 | Required Reports | Subpart V, §264.56(j) |
| G-9 | Location of the Contingency Plan and Plan Revision | Subpart V, §264.53 Subpart V, §264.54 |

*Regulatory citations are made using New Mexico Administrative Code RCRA regulations current through September 23, 1994.

**NEW MEXICO ADMINISTRATIVE CODE, TITLE 20 CHAPTER 4, PART 1
REGULATIONS (20 NMAC 4.1) CROSS-REFERENCE TABLE^a (CONTINUED)**

| Chapter | Title | 20 NMAC 4.1, Subpart or Section, or Appendix |
|---------|---|---|
| H | PERSONNEL TRAINING | Subpart V, §264.16 Subpart IX, §270.14(b)(12) |
| H-1 | Outline of the Training Program | Subpart V, §264.16(a)(1) Subpart IX, §270.14(b)(12) |
| H-1a | Job Title/Job Description | Subpart V, §264.16(d)(1) Subpart V, §264.16(d)(2) Subpart IX, §270.14(b)(12) |
| H-1b | Training Content, Frequency, and Techniques | Subpart V, §264.16(a) Subpart V, §264.16(b) Subpart V, §264.16(c) Subpart V, §264.16(d)(3) Subpart IX, §270.14(b)(12) |
| H-1b(1) | Training Content | Subpart V, §264.16(a) Subpart V, §264.16(d)(3) Subpart IX, §270.14(b)(12) |
| H-1b(2) | Training Frequency | Subpart V, §264.16(b) Subpart V, §264.16(c) Subpart IX, §270.14(b)(12) |
| H-1b(3) | Training Techniques | Subpart V, §264.16(d)(3) Subpart IX, §270.14(b)(12) |
| H-1c | Training Manager | Subpart V, §264.16(a)(2) Subpart IX, §270.14(b)(12) |
| H-1d | Relevance of Training to Job Position | Subpart V, §264.16(a)(2) Subpart IX, §270.14(b)(12) |
| H-1e | Training for Emergency Response | Subpart V, §264.16(a)(2) Subpart V, §264.16(a)(3) Subpart IX, §270.14(b)(12) |
| H-2 | Implementation of Training Program | Subpart V, §264.16(b) Subpart V, §264.16(d)(4) Subpart V, §264.16(e) Subpart IX, §270.14(b)(12) |

^aRegulatory citations are made using New Mexico Administrative Code RCRA regulations current through September 23, 1994.

**NEW MEXICO ADMINISTRATIVE CODE, TITLE 20 CHAPTER 4, PART 1
REGULATIONS (20 NMAC 4.1) CROSS-REFERENCE TABLE^a (CONTINUED)**

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| I | CLOSURE PLANS, POST-CLOSURE PLANS, AND FINANCIAL REQUIREMENTS | Subpart V, §264, Subpart G Subpart IX, §270.14(b)(13) |
| I-1 | Closure Plan | Subpart V, §264.111 Subpart V, §264.178 Subpart V, §264.601 Subpart IX, §270.14(b) Subpart IX, §270.23(a)(2), (3) Subpart IX, §270.14(b)(13) |
| I-1a | Closure Performance Standard | Subpart V, §264.111 Subpart V, §264.178 Subpart V, §264.601 Subpart IX, §270.14(b)(13) Subpart IX, §270.23(a)(2), (3) |
| I-1a(1) | Container Storage Units | Subpart V, §264.111 Subpart V, §264.178 Subpart IX, §270.14(b)(13) |
| I-1a(2) | Miscellaneous Unit | Subpart V, §264.111 Subpart V, §264.601 Subpart IX, §270.14(b)(13) Subpart IX, §270.23(a)(2), (3) |
| I-1a(3) | Post-Closure | Subpart V, §264.117 Subpart V, §264.601 Subpart IX, §270.23(a)(3) |
| I-1b | Requirements | Subpart V, §264.112(b)(2) Subpart IX, §270.14(b)(13) |
| I-1c | Maximum Waste Inventory | Subpart V, §264.112(b)(3) Subpart IX, §270.14(b)(13) |
| I-1d | Schedule for Closure | Subpart V, §264.112(b)(6) Subpart V, §264.113 Subpart IX, §270.14(b)(13) |
| I-1d(1) | Schedule for Panel Closure | Subpart V, §264.112(b)(6) Subpart V, §264.113(b) Subpart IX, §270.14(b)(13) Subpart IX, §270.23(a)(2) |
| I-1d(2) | Schedule for Final Facility Closure | Subpart V, §264.112(c) Subpart V, §264.113(b) Subpart IX, §270.14(b)(13) Subpart IX, §270.23(a)(2) |

^aRegulatory citations are made using New Mexico Administrative Code RCRA regulations current through September 23, 1994.

**NEW MEXICO ADMINISTRATIVE CODE, TITLE 20 CHAPTER 4, PART 1
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| I-1d(3) | Extension of Time for Closure | Subpart V, §264.113(b) Subpart IX, §270.14(b)(13) |
| I-1d(4) | Amendment of the Closure Plan | Subpart V, §264.112(c) Subpart IX, §270.14(b)(13) |
| I-1e | Closure Activities | Subpart V, §264.112(b)(1) Subpart IX, §270.14(b)(13) |
| I-1e(1) | Panel Closure | Subpart V, §264.112(b)(1) Subpart IX, §270.14(b)(13) Subpart IX, §270.23(a)(2) |
| I-1e(2) | Decontamination and Decommissioning | Subpart V, §264.112(b)(4) Subpart V, §264.114 Subpart V, §264.178 Subpart IX, §270.14(b)(13) |
| I-1e(3) | Performance of the Closed Facility | Subpart V, §264.111 Subpart V, §264.601 Subpart IX, §270.14(b)(13) Subpart IX, §270.23(a)(2) |
| I-2 | Post-Closure Plan | Subpart V, §264.117 Subpart V, §264.118 Subpart V, §264.603 Subpart IX, §270.14(b)(13) Subpart IX, §270.23(a)(3) |
| I-2a | Post-Closure Plan after Final Facility Closure | Subpart V, §264.117 Subpart V, §264.118 Subpart V, §264.603 Subpart IX, §270.14(b)(13) Subpart IX, §270.23(a)(3) |
| I-3 | Notices Required for Disposal Facilities | Subpart V, §264.112(d) Subpart IX, §270.14(b)(13) |
| I-3a | Certification of Closure | Subpart V, §264.115 Subpart IX, §270.14(b)(13) |
| I-3b | Survey Plat | Subpart V, §264.116 Subpart IX, §270.14(b)(13) |
| I-3c | Post-Closure Certification | Subpart V, §264.120 Subpart IX, §270.14(b)(13) |
| I-3d | Post-Closure Notices | Subpart V, §264.119 Subpart IX, §270.14(b)(14) |

^aRegulatory citations are made using New Mexico Administrative Code RCRA regulations current through September 23, 1994.

**NEW MEXICO ADMINISTRATIVE CODE, TITLE 20 CHAPTER 4, PART 1
REGULATIONS (20 NMAC 4.1) CROSS-REFERENCE TABLE^a (CONTINUED)**

| Chapter | Title | 20 NMAC 4.1, Subpart or Section, or Appendix |
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| I-4 | Closure Cost Estimates | Subpart V, §264.142 Subpart IX, §270.14(b)(13) |
| I-5 | Financial Assurance Mechanism for Closure | Subpart V, §264.143 Subpart IX, §270.14(b)(13) |
| I-6 | Post-Closure Cost Estimate | Subpart V, §264.144 Subpart IX, §270.14(b)(13) |
| I-7 | Financial Assurance Mechanism for Post-Closure Care | Subpart V, §264.145 Subpart IX, §270.14(b)(13) |
| I-8 | Liability Requirement | Subpart V, §264.147 Subpart IX, §270.14(b)(13) |
| J | CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS | Subpart V, §264.90 Subpart V, §264.100 Subpart V, §264.101 Subpart IX, §270.14(d) |
| J-1 | Solid Waste Management Units | Subpart IX, §270.14(d) |
| J-1a | Characterization of the SWMUs | Subpart IX, §270.14(d) |
| J-2 | Releases | Subpart V, §264.90 |
| J-2a | Assessment of Potential Releases | Subpart V, §264.90 |
| J-2b | Corrective Actions | Subpart V, §264.101(a) |
| K | OTHER FEDERAL LAWS | Subpart IX, §270.3 Subpart IX, §270.14(b)(20) |
| K-1 | Wild and Scenic Rivers Act | Subpart IX, §270.3 Subpart IX, §270.14(b)(20) |
| K-2 | National Historic Preservation Act | Subpart IX, §270.3 Subpart IX, §270.14(b)(20) |
| K-3 | Endangered Species Act | Subpart IX, §270.3 Subpart IX, §270.14(b)(20) |
| K-4 | Coastal Zone Management Act | Subpart IX, §270.3 Subpart IX, §270.14(b)(20) |
| K-5 | Fish and Wildlife Coordination Act | Subpart IX, §270.3 Subpart IX, §270.14(b)(20) |
| K-6 | Federal Mine Safety and Health Act of 1977 | Guidance in EPA 530-SW-88-001 (1988) |

^aRegulatory citations are made using New Mexico Administrative Code RCRA regulations current through September 23, 1994.

**NEW MEXICO ADMINISTRATIVE CODE, TITLE 20 CHAPTER 4, PART 1
REGULATIONS (20 NMAC 4.1) CROSS-REFERENCE TABLE^a (CONTINUED)**

| Chapter | Title | 20 NMAC 4.1, Subpart or Section, or Appendix |
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| K-7 | The Wilderness Act | Guidance in EPA 530-SW-88-001 (1988) |
| K-8 | OSHA Regulations | Guidance in EPA 530-SW-88-001 (1988) |
| K-9 | National Defense Authorization Act—Fiscal Year 1989 | Guidance in EPA 530-SW-88-001 (1988) |
| K-10 | Federal Facilities Compliance Act of 1992 | Guidance in EPA 530-SW-88-001 (1988) |
| K-11 | Executive Order 12548-Grazing Fees | Guidance in EPA 530-SW-88-001 (1988) |
| K-12 | Protection and Enhancement of Environmental Quality | Guidance in EPA 530-SW-88-001 (1988) |
| K-13 | Protection and Enhancement of the Cultural Environment | Guidance in EPA 530-SW-88-001 (1988) |
| K-14 | Exotic Organisms | Guidance in EPA 530-SW-88-001 (1988) |
| K-15 | Floodplain Management | Guidance in EPA 530-SW-88-001 (1988) |
| K-16 | Off-Road Vehicles on Public Lands | Guidance in EPA 530-SW-88-001 (1988) |
| K-17 | Protection of Wetlands | Guidance in EPA 530-SW-88-001 (1988) |
| K-18 | Federal Compliance with Pollution Control Standards | Guidance in EPA 530-SW-88-001 (1988) |
| K-19 | Management of Federal Legal Resources | Guidance in EPA 530-SW-88-001 (1988) |
| K-20 | Environmental Safeguards on Activities for Animal Damage Control on Federal Lands | Guidance in EPA 530-SW-88-001 (1988) |
| K-21 | Naval Nuclear Propulsion Program | Guidance in EPA 530-SW-88-001 (1988) |
| K-22 | Superfund Implementation | Guidance in EPA 530-SW-88-001 (1988) |

^aRegulatory citations are made using New Mexico Administrative Code RCRA regulations current through September 23, 1994.

**NEW MEXICO ADMINISTRATIVE CODE, TITLE 20 CHAPTER 4, PART 1
REGULATIONS (20 NMAC 4.1) CROSS-REFERENCE TABLE^a (CONTINUED)**

| Chapter | Title | 20 NMAC 4.1, Subpart or Section, or Appendix |
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| L | NO-MIGRATION DETERMINATION | Subpart VIII, Part §268 Subpart IX, §270.14(b)(21) |
| Appendix L1 | DOE WIPP No-Migration Determination for the Proposed Test Phase | Subpart VIII, Part §268 |
| M | CERTIFICATION | Subpart IX, §270.11 Subpart IX, §270.30(k) |

^aRegulatory citations are made using New Mexico Administrative Code RCRA regulations current through September 23, 1994.

CHAPTER A
HAZARDOUS WASTE PERMIT APPLICATION PART B

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| For EPA Regional Use Only | | EPA United States Environmental Protection Agency Washington, DC 20460 Hazardous Waste Permit Application Part A (Read the Instructions before starting) | | | |
|--|--|--|--|---|--------------------------|
| Date Received Month Day Year | | | | | |
| I. Installation's EPA ID Number (Mark 'X' in the appropriate box) | | | | | |
| <input type="checkbox"/> A. First Part A Submission | | <input checked="" type="checkbox"/> B. Part A Amendment # <u>7</u> | | | |
| C. Installation's EPA ID Number NM4890139088 | | D. Secondary ID Number (if applicable) | | | |
| II. Name of Facility WASTE ISOLATION PILOT PLANT | | | | | |
| III. Facility Location (Physical address not P.O. Box or Route Number) | | | | | |
| A. Street 30 MILES EAST OF CARLSBAD ON JAL HIGHWAY Street (Continued) | | | | | |
| City or Town CARLSBAD | | | | State NM | Zip Code 88221 |
| County Code (if known) 03 | County Name EDDY | | | | |
| B. Land Type (Enter code) F | C. Geographic Location LATITUDE (Degrees, Minutes, & Seconds) 32 22 30N LONGITUDE (Degrees, Minutes & Seconds) 103 47 30W | | | D. Facility Existence Date Month Day Year 05 18 1981 | |
| IV. Facility Mailing Address | | | | | |
| Street or P.O. Box P.O. BOX 3090 | | | | | |
| City or Town CARLSBAD | | | | State NM | Zip Code 88221 |
| V. Facility Contact (Person to be contacted regarding waste activities at facility) | | | | | |
| Name (Last) DIALS | | | (First) GEORGE | | |
| Job Title MANAGER | | | Phone Number (Area Code and Number) 505-234-7300 | | |
| VI. Facility Contact Address (See Instructions) | | | | | |
| A. Contact Address Location Mailing Other <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> | | B. Street or P.O. Box P.O. BOX 3090 | | | |
| City or Town CARLSBAD | | | | State NM | Zip Code 88221 |

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

| | | | |
|--|------------------------------|---|---|
| EPA ID Number (Enter from page 1) | | Secondary ID Number (Enter from page 1) | |
| NM4890139088 | | | |
| VII. Operator Information (See instructions) | | | |
| Name of Operator | | | |
| US DEPARTMENT OF ENERGY | | | |
| Street or P.O. Box | | | |
| P.O. BOX 3090 | | | |
| City or Town | | State | ZIP Code |
| CARLSBAD | | NM | 88221 |
| Phone Number (Area Code and Number) | | B. Operator Type | C. Change of Operator Indicator |
| 505-234-7300 | | F | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| VIII. Facility Owner (See instructions) | | | |
| A. Name of Facility's Legal Owner | | | |
| US DEPARTMENT OF ENERGY | | | |
| Street or P.O. Box | | | |
| P.O. BOX 3090 | | | |
| City or Town | | State | ZIP Code |
| CARLSBAD | | NM | 88221 |
| Phone Number (Area Code and Number) | | B. Owner Type | C. Change of Owner Indicator |
| 505-234-7300 | | F | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| IX. SIC Codes (4-digit, in order of significance) | | | |
| Primary | | Secondary | |
| 4953 | (Description) REFUSE SYSTEMS | (Description) | |
| Secondary | | Secondary | |
| (Description) | | (Description) | |
| X. Other Environmental Permits (See instructions) | | | |
| A. Permit Type (Enter code) | B. Permit Number | C. Description | |
| E | | Other: See Appendix A | |
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EPA LD. Number (Enter from page 1)

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NM4890139088

XI. Nature of Business (Provide a brief description)

The Waste Isolation Pilot Plant (WIPP) is a U.S. Department of Energy facility intended to demonstrate the technical and operational principles involved in the permanent isolation and disposal of defense-generated transuranic waste. WIPP operations entail receiving, unloading, and transferring radioactive-mixed waste from the surface of the site to the underground hazardous waste management units. Waste will be emplaced in an underground geologic repository horizon located in a deep-bedded salt formation approximately 2,150 feet beneath the surface.

XII. Process Codes and Design Capacities

A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Thirteen lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in Item XIII.

B. PROCESS DESIGN CAPACITY - For each code entered in column A, enter the capacity of the process.

1. AMOUNT - Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.
2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

C. PROCESS TOTAL NUMBER OF UNITS - Enter the total number of units used with the corresponding process code.

| PROCESS CODE | PROCESS | APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY | PROCESS CODE | PROCESS | APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY |
|--------------|---|---|------------------------------------|--|---|
| D79 | <u>Disposal:</u> Underground Injection | Gallons; Liters; Gallons Per Day; or Liters Per Day | T87 | Smelting, Melting, Or Refining Furnace | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| D80 | Landfill | Acres-foot or Hectare-meter | T88 | Titanium Dioxide Chloride Process | |
| D81 | Land Treatment | Acres or Hectares | T89 | Methane Reforming Furnace | |
| D82 | Ocean Disposal | Gallons Per Day r Liters Per Day | T90 | Pulping Liquor Recovery Furnace | |
| D83 | Surface Impoundment | Gallons or Liters | T91 | Combustion Device Used In The Recovery Of Sulfur Values From Spent Sulfuric Acid | |
| D99 | Other Disposal | Any Unit of Measure Listed Below | T92 | Halogen Acid Furnaces | Cubic Yards or Cubic Meters |
| S01 | <u>Storage:</u> Container (Barrel, Drum, Etc.) | Gallons or Liters | T93 | Other Industrial Furnaces Listed In 40 CFR §260.10 | |
| S02 | Tank | Gallons or Liters | T94 | Containment Building-Treatment | |
| S03 | Waste Pile | Cubic Yards or Cubic Meters | <u>Miscellaneous (Subpart XI):</u> | | Any Unit of Measure Listed Below |
| S04 | Surface Impoundment | Gallons or Liters | X01 | Open Burning/Open Detonation | |
| S05 | Drip Pad | Gallons or Liters | X02 | Mechanical Processing | |
| S06 | Containment Building-Storage | Cubic Yards or Cubic Meters | X03 | Thermal Unit | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; or Btu's Per Hour |
| S99 | Other Storage | Any Unit of Measure Listed Below | X04 | Geologic Repository | |
| T01 | <u>Treatment:</u> Tank | Gallons Per Day or Liters Per Day | X99 | Other Subpart X | |
| T02 | Surface Impoundment | Gallons Per Day or Liters Per Day | | | Cubic Yards or Cubic Meters |
| T03 | Incinerator | Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; or Btu's Per Hour | | | |
| T04 | Other Treatment | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour | | | |
| T80 | Boiler | Gallons or Liters | | | Any Unit of Measure Listed Below |
| T81 | Cement Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour | | | |
| T82 | Lime Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour | | | |
| T83 | Aggregate Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour | | | |
| T84 | Phosphate Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour | | | |
| T85 | Coke Oven | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour | | | |
| T86 | Blast Furnace | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour | | | |

| UNIT OF MEASURE | UNIT OF MEASURE CODE | UNIT OF MEASURE | UNIT OF MEASURE CODE | UNIT OF MEASURE | UNIT OF MEASURE CODE |
|------------------------|----------------------|----------------------------|----------------------|----------------------|----------------------|
| Gallons..... | G | Short Tons Per Hour | D | Cubic Yards | Y |
| Gallons Per Hour | E | Metric Tons Per Hour | W | Cubic Meters | C |
| Gallons Per Day | U | Short Tons Per Day | N | Acres | B |
| Liters | L | Metric Tons Per Day | S | Acres-foot | A |
| Liters Per Hour | H | Pounds Per Hour | J | Hectares | Q |
| Liters Per Day | V | Kilograms Per Hour | R | Hectare-meter | F |
| | | | | Btu's Per Hour | I |

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

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XII. Process Codes and Design Capabilities (Continued)

EXAMPLE FOR COMPLETING ITEM XII (Shown in line number X-1 below): A facility has a storage tank, which can hold 531,788 gallons.

| Line Number | A. Process Code <small>(From list above)</small> | B. PROCESS DESIGN CAPACITY | | C. Process Total Number Of Units | For Official Use Only | | | | | | | | | | | | | | |
|-------------|---|--|---------|----------------------------------|-----------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | | 1. Amount (Barrels) | | | | | | | | | | | | | 2. Unit Of Measure <small>(From code)</small> | | | | |
| X 1 | S 0 2 | | 533,788 | G | 0 0 1 | | | | | | | | | | | | | | |
| 1 | X 0 4 | 175,600 TOTAL (54,064 in ten years) | | C | 0 1 0 | | | | | | | | | | | | | | |
| 2 | | See attached page for additional process information | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | |
| 4 | S 0 1 | 87.7 | | C | 0 0 1 | | | | | | | | | | | | | | |
| 5 | | HMB Container Storage Unit | | | | | | | | | | | | | | | | | |
| 6 | | See attached page | | | | | | | | | | | | | | | | | |
| 7 | S 0 1 | 47.1 | | C | 0 0 1 | | | | | | | | | | | | | | |
| 8 | | Parking Area Container Storage Unit | | | | | | | | | | | | | | | | | |
| 9 | | See attached page | | | | | | | | | | | | | | | | | |
| 1 0 | | | | | | | | | | | | | | | | | | | |
| 1 1 | | | | | | | | | | | | | | | | | | | |
| 1 2 | | | | | | | | | | | | | | | | | | | |
| 1 3 | | | | | | | | | | | | | | | | | | | |

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (A., D08, S08, T04 and X39) in Item XII.

XIII. Other Processes (Follow instructions from Item XI for D08, S08, T04 and X39 process codes)

| Line Number (Enter on any sheet) | A. Process Code (From list above) | B. PROCESS DESIGN CAPACITY | | C. Process Total Number Of Units | D. Description Of Process |
|-------------------------------------|--------------------------------------|----------------------------|-----------------------------------|-------------------------------------|---------------------------|
| | | 1. Amount (gallons) | 2. Unit Of Measure (from code) | | |
| X 1 | T 0 4 | | | | As-eter Verification |
| 1 | | | | | |
| | | | | | |
| 2 | | | | | |
| | | | | | |
| 3 | | | | | |
| | | | | | |
| 4 | | | | | |

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1

XII. PROCESS—CODES AND DESIGN CAPACITIES (continued)

2

The Waste Isolation Pilot Plant (WIPP) geologic repository is defined as a "miscellaneous unit" under 40 CFR §260.10. "Miscellaneous unit" means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of and that is not a container, tank, surface impoundment, waste pile, land treatment unit, landfill, incinerator, containment building, boiler, industrial furnace, or underground injection well with appropriate technical standards under 40 CFR Part 146, corrective action management unit, or unit eligible for research, development, and demonstration permit under 40 CFR §270.65. The WIPP is a geologic repository designed for the disposal of defense-generated transuranic (TRU) waste. Some of the TRU wastes disposed of at the WIPP contain hazardous wastes as co-contaminants. More than half the waste to be disposed of at the WIPP also meets the definition of debris waste. The debris categories include manufactured goods, biological materials, and naturally occurring geological materials. Approximately 120,000 cubic meters (m^3) of the 175,600 m^3 of WIPP wastes is categorized as debris waste. The geologic repository has been divided into ten discrete hazardous waste management units (HWMU) which are being permitted under 40 CFR Part 264, Subpart X.

17

During the Disposal Phase of the facility, which is expected to last 25 years, the total amount of waste received from off-site generators and any derived waste will be limited to 175,600 m^3 of TRU waste of which up to 7,080 m^3 may be remote-handled (RH) TRU mixed waste. For purposes of this application, all TRU waste is managed as though it were mixed.

21

On March 25, 1996, the DOE reached the conclusion that in order to comply with 40 CFR 191 §13 which regulates the long-term release of radionuclides from a geologic disposal facility, it is necessary to add magnesium oxide to each disposal room. This additive is to be placed as a backfill over, beside, and within the waste stacks. The function of the backfill is to chemically alter the composition of brine that may accumulate in the disposal region. The result of the chemical alteration is to significantly reduce the solubility of the prevalent TRU radionuclides.

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The process design capacity for the miscellaneous unit (composed of ten underground HWMUs in the geologic repository) shown in Section XII B, is for the maximum amount of waste that may be received from off-site generators plus the maximum expected amount of derived wastes that may be generated at the WIPP facility. In addition, two HWMUs have been designated as container storage units (S01) in Section XII. One is inside the Waste Handling Building (WHB) and consists of the contact-handled (CH) bay, conveyance loading room, waste hoist entry room, RH bay, cask unloading room, hot cell, transfer cell, and facility cask loading room. This HWMU will be used for waste receipt, handling, and storage (including storage of derived waste) prior to emplacement in the underground geologic repository. No treatment or disposal will occur in this S01 HWMU. The capacity of this S01 unit for storage is 87.7 m^3 , based on 40 standard waste boxes or seven-packs of drums on pallets and in the TRUDOCKs, one standard waste box of derived waste, seven RH canisters in the transfer cell, and five RH canisters in the hot cell. The second S01 HWMU is the parking area outside the WHB where the Transuranic Package Transporter (TRUPACT-II) trailers and the road cask trailers will be parked awaiting waste handling operations. The capacity of this unit is 12 TRUPACT-IIs and three road casks or four rail casks with a combined volume of 47.1 m^3 . The railroad side tracks are included in this area

43

1 to accommodate rail shipments of RH TRU mixed waste. The HWMUs are shown in Appendix
2 A3 as Figures A3-2, A3-3, and A3-4.

3
4 During the ten year period of the permit, up to 52,110 m³ of CH waste and 1,954 m³ of RH waste
5 could be emplaced in Panels 1 to 3. A fourth HWMU (Panel 4), plus disposal area access drifts
6 (designated as Panels 9 and 10), will be constructed under this permit. These latter areas will
7 not receive waste for disposal under this permit.

EPA ID Number (Enter from page 1)

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NM4890139088

XIV. Description of Hazardous Wastes

- A. EPA HAZARDOUS WASTE NUMBER** - Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.
- B. ESTIMATED ANNUAL QUANTITY** - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.
- C. UNIT OF MEASURE** - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

| ENGLISH UNIT OF MEASURE | CODE | METRIC UNIT OF MEASURE | CODE |
|-------------------------|------|------------------------|------|
| POUNDS | P | KILOGRAMS | K |
| TONS | T | METRIC TONS | M |

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES**1. PROCESS CODES:**

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item XII A. on page 3 to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item XII A. on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

- Enter the first two as described above.
- Enter "000" in the extreme right box of Item XIV-D(1).
- Enter in the space provided on page 7, Item XIV-E, the line number and the additional code(s).

- 2. PROCESS DESCRIPTION:** If a code is not listed for a process that will be used, describe the process in the space provided on the form (D.(2)).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

- Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.
- Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM XIV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

| Line Number | A. EPA HAZARD WASTE NO. (Enter code) | | | | | B. ESTIMATED ANNUAL QUANTITY OF WASTE | C. UNIT OF MEASURE (Enter code) | D. PROCESS | | | | | | | | | |
|-------------|---|---|---|---|---|---------------------------------------|------------------------------------|---|---|---|---|---|---|--|--|--|---------------------|
| | (1) PROCESS CODES (Enter code) | | | | | | | (2) PROCESS DESCRIPTION (If a code is not entered in D(1)) | | | | | | | | | |
| X | 1 | K | 0 | 5 | 4 | 900 | P | T | 0 | 3 | D | 8 | 0 | | | | |
| X | 2 | D | 0 | 0 | 2 | 400 | P | T | 0 | 3 | D | 8 | 0 | | | | |
| X | 3 | D | 0 | 0 | 1 | 100 | P | T | 0 | 3 | D | 8 | 0 | | | | |
| X | 4 | D | 0 | 0 | 2 | | | | | | | | | | | | Included With Above |

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Secondary ID Number (Enter from page 1)

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XIV. Description of Hazardous Wastes (Continued)

| is number | | A. EPA HAZARD WASTE NO (Enter code) | | | | B. ESTIMATED ANNUAL QUANTITY OF WASTE | C. UNIT OF MEASURE (Enter code) | D. PROCESSES | | | | | | | | | |
|--------------|---|---|---|---|---|--|---------------------------------------|--------------------------------|---|---|---|---|---|---|---|-------------------------|--|
| | | | | | | | | (1) PROCESS CODES (Enter code) | | | | | | | | (2) PROCESS DESCRIPTION | |
| | 1 | F | 0 | 0 | 1 | 1,891 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| | 2 | F | 0 | 0 | 2 | 1,860 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| | 3 | F | 0 | 0 | 3 | 1,593 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| | 4 | F | 0 | 0 | 4 | 26 | M | X | 0 | 4 | S | 0 | 1 | 2 | 0 | 1 | |
| | 5 | F | 0 | 0 | 5 | 1,829 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| | 6 | F | 0 | 0 | 6 | 915 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| | 7 | F | 0 | 0 | 7 | 915 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| | 8 | F | 0 | 0 | 9 | 915 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| | 9 | D | 0 | 0 | 4 | 903 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 1 | 0 | D | 0 | 0 | 5 | 484 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 1 | 1 | D | 0 | 0 | 6 | 1,819 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 1 | 2 | D | 0 | 0 | 7 | 1,248 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 1 | 3 | D | 0 | 0 | 8 | 3,246 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 1 | 4 | D | 0 | 0 | 9 | 1,727 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 1 | 5 | D | 0 | 1 | 0 | 186 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| | 6 | D | 0 | 1 | 1 | 1,090 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 1 | 7 | D | 0 | 1 | 8 | 749 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 1 | 8 | D | 0 | 1 | 9 | 761 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 1 | 9 | D | 0 | 2 | 1 | 26 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 2 | 0 | D | 0 | 2 | 2 | 1,098 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 2 | 1 | D | 0 | 2 | 6 | 609 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 2 | 2 | D | 0 | 2 | 7 | 26 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 2 | 3 | D | 0 | 2 | 8 | 449 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 2 | 4 | D | 0 | 2 | 9 | 478 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 2 | 5 | D | 0 | 3 | 0 | 26 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 2 | 6 | D | 0 | 3 | 2 | 26 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 2 | 7 | D | 0 | 3 | 4 | 26 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 2 | 8 | D | 0 | 3 | 5 | 139 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 2 | 9 | D | 0 | 3 | 6 | 26 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 3 | 0 | D | 0 | 3 | 7 | 26 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 3 | 1 | D | 0 | 3 | 8 | 26 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 3 | 2 | D | 0 | 3 | 9 | 26 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| | 3 | D | 0 | 4 | 0 | 140 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 3 | 4 | D | 0 | 4 | 3 | 26 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |
| 3 | 5 | P | 0 | 1 | 5 | 945 | M | X | 0 | 4 | S | 0 | 1 | S | 0 | 1 | |

| | |
|---|--|
| EPA ID Number (Enter from page 1) <div style="border: 1px solid black; padding: 2px;">NM489013988</div> | Secondary ID Number (Enter from page 1) <div style="border: 1px solid black; height: 20px;"></div> |
|---|--|

XV. Map

Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

XVI. Facility Drawing

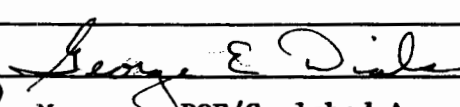
All existing facilities must include a scale drawing of the facility (see instructions for more detail).

XVII. Photographs

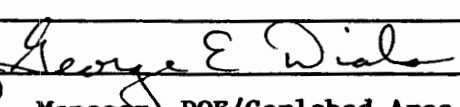
All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

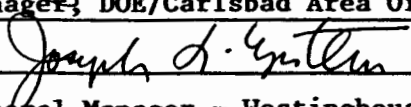
XVIII. Certification(s)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

| | |
|--|----------------|
| Owner Signature | Date Signed ** |
|  Name and Official Title (Type or print) Manager, DOE/Carlsbad Area Office | 5/29/96 |

| | |
|---|-------------|
| Owner Signature | Date Signed |
| Name and Official Title (Type or print) | |

| | |
|---|----------------|
| Operator Signature | Date Signed ** |
|  Name and Official Title (Type or print) Manager, DOE/Carlsbad Area Office | 5/29/96 |

| | |
|---|----------------|
| Operator Signature * | Date Signed ** |
|  Name and Official Title (Type or print) General Manager - Westinghouse Waste Isolation Division | 5/28/96 |

XIX. Comments

Section XVIII Operator Signature - *See Attached "RCRA Part A Application Certification"

** Date of submittal of clarifying information as requested by NMED.

Additional data were submitted on July 9, 1991; November 12, 1992; January 29, 1993; March 2, 1995; May 26, 1995; and April 12, 1996. Part A originally signed on January 18, 1991, and submitted on January 22, 1991.

Note: Mail completed form to the appropriate EPA Regional or State Office. (Refer to instructions for more information)

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RCRA PART A APPLICATION CERTIFICATION

The U.S. Department of Energy (DOE), through its Carlsbad Area Office, has signed as "owner and operator," and Westinghouse Electric Corporation, acting through its Waste Isolation Division (WID), has signed this application for the permitted facility as "co-operator."

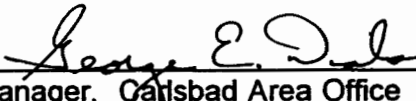
The DOE has determined that dual signatures best reflect the actual apportionment of Resource Conservation and Recovery Act (RCRA) responsibilities as follows:

The DOE's RCRA responsibilities are for policy, programmatic directives, funding and scheduling decisions, Waste Isolation Pilot Plant (WIPP) requirements of DOE generator sites, auditing, and oversight of all other parties engaged in work at the WIPP, as well as general oversight.

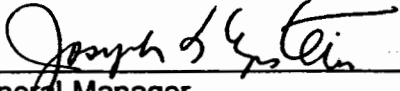
The WID's RCRA responsibilities are for certain day-to-day operations (in accordance with general directions given by the DOE and in the Management and Operating Contract as part of its general oversight responsibility), including, but not limited to, the following: certain waste handling, monitoring, record keeping, certain data collection, reporting, technical advice, and contingency planning.

For purposes of the certification required by Title 20 of the New Mexico Administrative Code, Chapter 4, Part 1 (20 NMAC 4.1), Subpart IX, §270.11(d), the DOE's and the WID's representatives certify, under penalty of law that this document and all attachments were prepared under their direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on their inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of their knowledge and belief, true, accurate, and complete for their respective areas of responsibility. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner and Operator Signature:


Title: Manager, Carlsbad Area Office
for: U.S. Department of Energy
Date: 5/27/96

Co-Operator Signature:


Title: General Manager
for: Westinghouse Electric Corporation
Date: 5/28/96

CHAPTER B
FACILITY DESCRIPTION

CHAPTER B

FACILITY DESCRIPTION

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CHAPTER B FACILITY DESCRIPTION

Introduction

This permit application describes the activities at the Waste Isolation Pilot Plant (WIPP) facility that are subject to permitting under the Resource Conservation and Recovery Act (RCRA) and the New Mexico Hazardous Waste Act (HWA). An aerial photograph of the facility is provided as Figure B-1. Specifically, this application addresses the management, storage, and disposal of mixtures of radioactive transuranic (TRU) and hazardous wastes (referred to as TRU mixed waste) in hazardous waste management units (HWMU). The subject of this permit application is TRU mixed waste disposal at the WIPP. For this permit application, discrete underground HWMUs are defined as eight panels, each containing seven rooms and two access drifts (Figure B-2), and the disposal area access drifts (designated as Panels 9 and 10, Figure B-2a). These units will be appropriately permitted under Title 20 of the New Mexico Administrative Code Chapter 4, Part 1 (20 NMAC 4.1), Subpart IX, §270.15. The U.S. Department of Energy (DOE) is also seeking to permit a portion of the Waste Handling Building (WHB) and the parking area south of the WHB as container storage units for waste handling activities under 20 NMAC 4.1, Subpart IX, §270.23. The WHB container storage HWMU is shown on Figure B-3, and the parking area container storage HWMU is shown on Figure B-3a.

The ten major generator/storage sites planning to ship waste to WIPP for disposal are:

- Argonne National Laboratories (East)
- Idaho National Engineering Laboratory
- Los Alamos National Laboratory
- Lawrence Livermore National Laboratory
- Mound Facility
- Nevada Test Site
- Oak Ridge National Laboratory
- Richland (Hanford) Site
- Rocky Flats Environmental Technology Site
- Savannah River Site

Figure C-3 shows the geographic location of these sites. These sites will be subjected to the certification program described in Chapter C and will not ship waste to the WIPP facility until their certifications are granted. There are several other small generator/storage sites that will either ship their waste to the WIPP facility or to one of the major generator/storage sites (Figure C-3) for waste characterization and certification to WIPP requirements. Those sites will be identified to the New Mexico Environment Department (NMED) as they are certified and prior to initiating any shipments to the WIPP facility.

The Disposal Phase, projected to last 25 years, includes receiving, handling, and emplacing TRU and TRU mixed wastes in the WIPP geologic repository. Disposal operations may commence once compliance with applicable federal and state laws and regulations has been demonstrated and the certification and approval requirements of the WIPP Land Withdrawal Act (LWA) of 1992 (Public Law 102-579) (U.S. Congress, 1992)¹ are met. The DOE originally proposed a Test Phase using TRU and TRU mixed waste testing at the WIPP facility. The Test Phase has since been abandoned as a result of reevaluation. The DOE has decided that radioactive waste tests can be conducted more efficiently at locations other than the WIPP facility.

Background

The WIPP Project was authorized by the National Security and Military Applications of Nuclear Energy Authorization Act of 1980 (Public Law 96-164). Its legislative mandate is to provide a research and development facility to demonstrate the safe disposal of radioactive waste resulting from United States defense activities and programs. The DOE is developing the WIPP facility to demonstrate the efficacy of an underground geologic repository for the safe disposal of TRU mixed waste currently stored at or generated by DOE defense installations. The LWA transferred jurisdiction of the land used for the WIPP Project from the Bureau of Land Management to the DOE and provided additional authorization to continue the activities, including the phased implementation of the WIPP Project, initiated by Public Law 96-164. The LWA requirements focus on the criteria for certification of compliance with the long-term disposal regulations developed by the U.S. Environmental Protection Agency (EPA).

Once the WIPP facility has obtained a hazardous waste permit, the facility will be used for the permanent disposal of TRU waste, including TRU mixed waste containing hazardous constituents regulated under the HWA. Prior to initiating the disposal of waste at the WIPP facility, however, the DOE must also demonstrate compliance with the requirements for Performance Assessment in Title 40 of the Code of Federal Regulations (CFR), Part 191 (EPA, 1993)² and the requirements of the land disposal restrictions in 40 CFR Part 268.

¹U.S. Congress, 1992, Public Law 102-579, Waste Isolation Pilot Plant Land Withdrawal Act, 102nd Congress, Washington, DC, October, 1992. The purpose of Public Law 102-579 is to withdraw certain public lands from the jurisdiction of the Bureau of Land Management (BLM) for the operation of the WIPP Project. The law provides for the transfer of the WIPP site lands from the Secretary of the Interior to the Secretary of Energy and withdraws the lands from entry, sale, or disposition; appropriation under mining laws; and operation of the mineral and geothermal leasing laws. The Secretary of Energy is directed to produce a management plan to provide for grazing, hunting and trapping; wildlife habitat; the disposal of salt tailings; and mining. The law provides prerequisites for the DOE and the Environmental Protection Agency (EPA) prior to initiating the Disposal Phase, including EPA review and approval of key WIPP programmatic documents. Roles and responsibilities for the U.S. Department of Interior, the U.S. Department of Labor, the Environmental Evaluation Group (EEG), the National Academy of Science (NAS), and the State of New Mexico are defined.

²EPA, 1993. This regulation, which implements portions of the Nuclear Waste Policy Act, provides for generally applicable environmental standards for the protection of human health and the environment from radioactivity. The regulation includes standards for the management and storage of radioactive waste and spent nuclear fuel (Subpart A) and for the long-term disposal of these wastes (Subparts B and C). In 1987 a federal court vacated the standard and remanded it back to the EPA for reconsideration. The EPA published a final standard in the Federal Register.

The rationale for preferring salt as the disposal medium for nuclear waste, in general, and for the WIPP facility, in particular, resulted from two decades of repository program activities. In 1955, the National Academy of Sciences (NAS) National Research Council was asked by the Atomic Energy Commission (AEC) to examine the issue of permanent disposal of radioactive waste. In a report published in 1957, the committee stated that it was convinced that radioactive waste could be disposed of safely and concluded that the most promising method of disposal of radioactive waste was placement in salt deposits.

Salt was determined to be the most promising disposal medium because of its unique thermal and physical properties. It has a relatively high thermal conductivity, which serves to rapidly conduct heat away from the waste, and has favorable plastic, or creep, properties that permit sizeable strains to be absorbed without fractures. The existence of large salt deposits demonstrates isolation from circulating groundwaters for long periods of geologic time; the depositional nature and preservation of large salt deposits demonstrate regional stability for long periods of geologic time.

Conclusions made from studies that took place from 1963 to 1970 were favorable, and in 1970, a site near Lyons, Kansas, was selected by the AEC as a potential location for a radioactive waste repository. The NAS endorsed this recommendation. Studies at Lyons further confirmed that salt is a good disposal medium.

The site-selection process for the WIPP was initiated in 1973, with a review of available information on potential disposal sites. This work was directed toward salt beds and salt domes. The tentative selection criteria used in the initial stage of the process were geological and logistical in nature and stressed radiation and mine safety, hydrologic isolation, and ease of construction. The criteria specified the following conditions: a 1,000- to 2,500-foot (ft) (305- to 762-meter [m]) depth to salt; a 200-ft (61-m) minimum salt thickness; a lateral extent of salt sufficient to protect against dissolution; favorable tectonics (low historical seismicity and no salt-flow structures nearby); minimal groundwater; low resource potential; a minimum number of boreholes; low population density; and maximum involvement of federal lands. From the bedded-salt regions surveyed in this stage, the U.S. Geological Survey and the Oak Ridge National Laboratory (ORNL) selected eastern New Mexico as the area that best satisfied the tentative selection criteria.

During the second stage of the selection process, two of three New Mexico locations were determined to be inadequate: the Clovis-Portales site, because the shallow salt was very clayey and the purer salt was too deep, and the Mescalero Plains area, because of extensive oil-field development. After ORNL selected a site in the Delaware Basin for extensive characterization, the site was shifted twice in order to avoid drillhole penetrations through the salt within 2 miles (mi) (3.2 kilometers [km]) of the repository border.

In the final stage of the selection process, eight areas in the Delaware Basin in Eddy and Lea Counties were evaluated. Eight additional selection criteria were used in this analysis:

1. The site should be at least 6 mi (10 km) from the Capitan Reef, a major aquifer, to avoid any possible dissolution hazard related to the nearness of the reef.
2. To minimize potential conflicts with mineral resources, the central 4 square mi (10 square km) designated for the repository itself should not be in the known Potash District, and as little as possible of the surrounding buffer zone should be in the district.
3. No part of the central area should be less than 1 mi (1.6 km) away from holes drilled through the Castile Formation into underlying rocks to avoid potential dissolution by water flowing upward through an inadequately plugged borehole.
4. Known oil and gas stratigraphic trends should be avoided.
5. The nearest dissolution front should be at least 1 mi (1.6 km) from the site.
6. Bedding should be nearly flat, so far as can be determined by surface geophysical investigations, to ensure mine safety and ease of construction and to avoid the need for numerous exploratory holes with a subsequent risk to the integrity of the repository.
7. Salt of high purity should be available at depths between 1,000 and 3,000 ft (305 and 914 m) to ensure mine safety and ease of construction. In addition, a salt thickness of 200 ft (61 m) or more is preferred to confine thermal and mechanical effects to the salt.
8. The use of state and private land should be minimized, especially in the central area, to simplify land acquisition and to make residential relocation unnecessary.

The WIPP site was selected as the best of the available areas considered, because the salt possessed the favorable characteristics of size, homogeneity, and depth, and because seismic data indicated that the site was in a syncline, making the accumulation of oil, gas, and geopressurized brines less favorable. Subsequent site-validation and facility-construction activities have confirmed that site features are favorable for the long-term isolation of radioactive and hazardous waste constituents.

Since Public Law 96-164 was enacted establishing the mission of the WIPP Project, program activities have focused on completion of major segments or phases of the project, thereby allowing significant progress to be made toward demonstrating the safety of the WIPP facility. Each major phase has provided an opportunity to study and evaluate the most recent information, individually and collectively, prior to proceeding with the next phase. The major phases of the WIPP Project began with the Preliminary Design (Title I) in October 1979, followed by Detail Design (Title II), which started in September 1981. Following the successful completion

of the Site and Preliminary Design Validation (SPDV) program in July 1983, the Construction Phase was initiated during which surface structures for receiving waste were built and underground excavations were completed for one panel of rooms designed for permanent waste emplacement. The end of the construction phase was marked by a decision by the DOE Energy Systems Acquisition Advisory Board that all prerequisites for ending construction were met and documented to the satisfaction of the DOE's executives.

Because the TRU mixed waste is subject to the RCRA Land Disposal Restrictions, the WIPP Project submitted a petition for a variance from the treatment standards based on a demonstration that the waste would not migrate beyond the unit boundary during a proposed Test Phase. On April 6, 1990, the EPA published a public notice of the agency's intent to grant a "conditional" No Migration Determination (NMD). The EPA's decision to grant the conditional determination was published on November 14, 1990. The EPA's approval of the conditional NMD for the WIPP facility would have allowed the facility to accept for placement in the underground a limited quantity of untreated TRU mixed waste for test purposes that would otherwise have been prohibited from land disposal during the proposed Test Phase. The DOE has since determined not to conduct the Test Phase activities with TRU mixed waste at the WIPP facility. The DOE is seeking an NMD for the Disposal Phase. Chapter L of this RCRA permit application describes the current DOE activities relative to no migration.

The LWA established a framework by which the DOE can proceed with the phased implementation of the WIPP Project, including the initiation of the Disposal Phase. The LWA mandates certain prerequisites, however, that must be completed prior to the initiation of the Disposal Phase and that require the ongoing participation of several federal and state agencies in the review, inspection, and approval of the WIPP facility. Some prerequisites were applied to the Test Phase and no longer apply. Specifically, the prerequisites that are still applicable are:

- The EPA must publish final repository disposal standards (40 CFR 191). (Completed in December, 1993)
- The EPA must issue criteria for determining whether the WIPP complies with environmental protection standards for the disposal of TRU wastes. (40 CFR 194) (Completed in February 1996)
- The federal Occupational Safety and Health Administration (OSHA) must certify that it has reviewed the DOE emergency response training programs and has concurred that such programs are in compliance with 29 CFR 1910.120. (Completed July 1993)
- The EPA Administrator must certify that the WIPP facility is in compliance with final repository disposal standards. (40 CFR 191)

- The DOE must submit decommissioning and post-decommissioning management plans to the U.S. Congress.
- The DOE must notify the U.S. Congress that the WIPP facility is in compliance with all applicable federal laws pertaining to public health and safety of the environment, the attendant regulations, and permit requirements.
- The DOE issued a Land Management Plan (October 1993) for the use of the land until the end of the decommissioning phase.
- Existing rights under Federal Oil and Gas Leases No. NMNM02953 and No. NMNM02953C shall not be affected unless the Administrator determines, after consultation with the Secretary and the Secretary of the Interior, that the acquisition of such leases by the Secretary is required to comply with the final disposal regulations or with the Solid Waste Disposal Act.
- The DOE must submit comprehensive recommendations to the U.S. Congress for the disposal of all TRU waste under DOE control, including a timetable for the disposal of such waste.
- The DOE must complete, with notice and an opportunity for public comment, a survey identifying all TRU waste types at all sites from which wastes are to be shipped to the WIPP facility.

In addition, the LWA places requirements on the DOE, the EPA, the Mine Safety and Health Administration (MSHA), the Bureau of Mines, and the State of New Mexico (NM) during Disposal Phase operations. Specifically, these are:

- The DOE must comply with all applicable federal laws pertaining to public health or safety of the environment, the attendant regulations, and permit requirements.
- The DOE submitted in October 1994 to the EPA and the NM, and will submit every two years hereafter, documentation of compliance with these laws and regulations (to the extent appropriate). Determination and consequences of noncompliance are established in the statute.
- The WIPP facility will not accept for emplacement high-level radioactive waste or spent nuclear fuel.
- No TRU waste received at the WIPP facility may have a surface dose rate in excess of 1,000 rems per hr (rems/hr), and no more than five percent by volume of the remote-handled (RH) TRU waste received at the WIPP facility may have a surface dose rate in excess of 100 rems/hr.

- RH TRU waste received at the WIPP facility shall not exceed an activity level of 23 curies per liter (averaged over the volume of the canister), and the total curies of the RH TRU waste received by the WIPP facility shall not exceed 5,100,000 curies. 1 2 3 4
- The total capacity by volume of the WIPP facility is 6.2 million cubic ft (175,600 cubic m) of TRU waste. 5 6
- No TRU waste may be transported to or from the WIPP facility except in packages the design of which was certified by the Nuclear Regulatory Commission (NRC) and which satisfied the NRC's quality assurance requirements. 7 8 9
- Prior to the transport of TRU waste to or from the WIPP facility, the DOE must provide advance notification to states and to Indian tribes through whose jurisdiction the DOE plans to transport the TRU waste. 10 11 12
- The DOE shall provide technical assistance and funds to train public safety officials and other emergency responders in any state or to any Indian tribe through whose jurisdiction the DOE plans to transport waste to or from the WIPP facility. 13 14 15
- The DOE shall periodically review the training provided in consultation with affected states and Indian tribes, the OSHA, and the National Institute for Occupational Safety and Health. 16 17 18
- The DOE shall submit a study reviewing the technologies that are available and that are being developed for the processing and reduction of volumes of radioactive wastes. 19 20 21
- The MSHA is required to inspect the WIPP facility four times per year. 22
- The U.S. Bureau of Mines is required to prepare an annual evaluation of the safety of the WIPP facility. 23 24
- The DOE is required to provide the NM, the NAS, and the Environmental Evaluation Group (EEG) free and timely access to data relating to health, safety, and environmental issues at the WIPP facility. 25 26 27
- The DOE is required to consult and cooperate with the EEG in the performance of its responsibility to conduct an independent technical review and evaluation of the WIPP Project. 28 29 30

- The DOE is required to use both engineered and natural barriers and waste modifications at the WIPP facility to isolate TRU waste after disposal to the extent necessary to comply with the final disposal regulations.
- The statute does not affect either the Consultation and Cooperation Agreement or the Supplemental Stipulated Agreement between the DOE and the NM except as explicitly stated in the statute.

In addition, the statute contains requirements related to the transportation of radioactive waste to the WIPP facility and instructions for the EPA with regard to establishing economic assistance, waste limitations, and decommissioning.

On March 25, 1996, the DOE reached the conclusion that in order to comply with 40 CFR 191 §13, which regulates the long-term release of radionuclides from a geologic disposal facility, it is necessary to add magnesium oxide (MgO) to each disposal room. This additive is to be placed as a backfill over, beside, and within the waste stacks. The function of the backfill is to chemically alter the composition of brine that may accumulate in the disposal region. The result of the chemical alteration is to significantly reduce the solubility of the prevalent TRU radionuclides.

The circumstances under which the MgO would be necessary are those associated with the inadvertent human intrusion scenario which must be modeled under 40 CFR Part 191. The inadvertent human intrusion scenario cannot happen during the Disposal Phase or Post Closure Care Period because the DOE will be actively controlling the WIPP site as described in Section I-2a(1). Even though the MgO backfill is not needed to enhance performance during the term of this and subsequent permits, it has been added to this application for two reasons:

- 20 NMAC 4.1, Subpart IX, §270.72(a)(3)(ii) requires the approval of changes to processes for the treatment, storage, or disposal of hazardous waste if such changes are required to comply with another federal, state, or local requirement.
- It is necessary to describe the backfilling process and evaluate its effect (both chemical and physical) on the facility and its operations.

The purpose and function of backfill is provided in Appendix D22 along with technical specifications for its placement. The design of backfilling systems is described in Section D-10a(3)(b). The impact of backfill on compliance with the Environmental Performance Standards is discussed in Section, D-9b, D-9b(1)(a), and D-9b(1)(b). Chemical compatibility is demonstrated in Appendix C1. The impact on closure is assessed in Section I-1e(1). Backfill is expected to require no changes in the Contingency Plan as discussed in Section G-1. Further, backfill is emplaced using the same equipment used for emplacing waste, so that no new inspection or prevention measures are needed in Chapter F.

B-1 General Description

In this application the DOE is seeking a permit for the disposal of TRU mixed waste at the WIPP facility. Waste disposal will occur in the underground portion of the WIPP facility in areas designated as Panels 1 through 8. Each panel consists of seven rooms and two access drifts mined in a salt bed 2,150 ft (655 m) below the surface. The precise locations and descriptions of the TRU mixed waste units are given in Section B-1b. The underground disposal design capacity is for 6.2 million cubic ft (ft³) (175,600 cubic m (m³)) of waste. If waste volumes disposed of in the eight panels fail to reach the stated design capacity, the DOE may choose to use the four disposal area access drifts for disposal; however, the DOE is only seeking to permit the construction of these areas at this time. A permit modification or future permit would be submitted describing the condition of those drifts and the controls exercised for personnel safety and environmental protection while disposing of waste in these areas.

For the ten year term of this permit, the DOE plans to dispose of up to 1,840,000 cubic ft (52,110 cubic m) of contact-handled (CH) waste and 69,000 ft³ (1,954 m³) of RH waste, in Panels 1 to 3 (see Figure B-2). Figure B-2a shows the disposal HWMUs that may be covered by three successive permits. Construction of Panels 2, 3, 4, and the disposal area access drifts will begin during the term of the permit.

Detailed descriptions of the container design to be used and associated operations during the Disposal Phase are presented in Sections D-1a(1) and D-10a(3), respectively, to support this permit application. The TRU mixed waste that will be disposed at the WIPP facility results primarily from activities related to the reprocessing of plutonium-bearing reactor fuel and fabrication of plutonium-bearing weapons, as well as from research and development. This TRU mixed waste consists largely of such items as paper, cloth, and other organic material; laboratory glassware and utensils; tools; scrap metal; shielding; and solidified sludges from the treatment of wastewater. Much of this TRU mixed waste is also contaminated with substances that are defined as hazardous under 20 NMAC 4.1, Subpart II, Subparts C and D, and subject to the land disposal restrictions of 20 NMAC 4.1, Subpart VIII.

B-1a Waste Description

Waste destined for WIPP are, or were, produced as a byproduct of weapons production and have been identified in terms of waste streams based on the processes that produced them. Each waste stream identified by generators is assigned to a Waste Summary Category to facilitate RCRA waste characterization, and reflect the final waste forms acceptable for WIPP disposal.

These Waste Summary Categories are:

S3000—Homogeneous Solids

Solid process residues defined as solid materials, excluding soil, that do not meet the applicable regulatory criteria for classification as debris [20 NMAC 4.1, Subpart VIII, § 268.2(g) and (h)]. Included in solid process residues are inorganic process residues, inorganic sludges, salt waste, and pyrochemical salt waste. Other waste streams are included in this Waste Summary Category based on the specific waste stream types and final waste form. Each waste stream designated as a 3000 Homogeneous Solid is identified in Table C-2. This category includes wastes that are at least 50 percent by volume solid process residues.

S4000—Soils/Gravel

This waste summary category includes waste streams that are at least 50 percent by volume soil as identified in Table C-2. Soils are further categorized by the amount of debris included in the matrix.

S5000—Debris Wastes

This waste summary category includes waste that is at least 50 percent by volume materials that meet the NMAC criteria for classification as debris (20 NMAC 4.1, Subpart VIII, §268.2) as follows:

Debris means solid material exceeding a 2.36 inch (60 millimeter) particle size that is intended for disposal and that is: 1) a manufactured object, 2) plant or animal matter, or 3) natural geologic material.

Included in the S5000 Waste Summary Category are metal debris, lead containing metal debris, inorganic nonmetal debris, asbestos debris, combustible debris, graphite debris, heterogeneous debris, and composite filters, as well as other minor waste streams, as identified in Table C-2.

Examples of waste that might be included in the S5000 Waste Summary Category are asbestos-containing gloves, fire hoses, aprons, flooring tiles, pipe insulation, boiler jackets, and laboratory tabletops. Also included are combustible debris constructed of plastic, rubber, wood, paper, cloth, graphite, and biological materials. Examples of graphite waste that would be included are crucibles, graphite components, and pure graphite.

Detailed descriptions of the wastes can be found in section C-1b. Table C-3 lists the hazardous constituents of interest.

Wastes may be generated at the WIPP facility as a direct result of managing the TRU and TRU mixed wastes received from the off-site generators. Such generated waste may occur in either

the WHB or the underground. For example, when TRU mixed wastes are received at the WHB, the shipping containers (the Transuranic Package Transporter II [TRUPACT-II] and the RH cask) and the TRU mixed waste containers are checked for surface contamination. Under some circumstances,³ if contamination is detected, the shipping container and/or the TRU mixed waste containers will be decontaminated. In the underground, waste may be generated as a result of radiation control procedures used during monitoring activities. The waste generated from radiation control procedures will be assumed to be TRU and/or TRU mixed waste. Throughout the remainder of this permit application, this waste is referred to as "derived waste." All such derived waste will be placed in the rooms in HWMUs along with the TRU mixed waste for disposal.

Hazardous wastes generated at the WIPP, through activities where contact with TRU mixed waste does not occur, are characterized, placed in containers, and stored (for periods not exceeding the limits specified in 20 NMAC 4.1, Subpart III, §262.34) until it is transported off site for treatment and/or disposal at a permitted facility. This waste generation and accumulation activity, which is performed in compliance with 20 NMAC 4.1, Subpart III, is not subject to RCRA permitting requirements and, as such, is not addressed in this permit application.

B-1b The Disposal Phase

The Disposal Phase operations, projected to last 25 years, will consist of receiving, handling, and emplacing TRU and TRU mixed waste in the WIPP repository. Facility closure follows the Disposal Phase operations.

This permit application describes WIPP facility operations for the entire 25-year operating period and final facility closure at the end of operations. Waste emplacement will occur in one panel (HWMU) at a time, and when a panel is filled, it will be closed. A subsequent disposal panel will be mined while waste emplacement activities are conducted in an open panel. During the term of the first (ten year) permit period, the DOE anticipates that three panels could be filled and a fourth panel and the disposal area access drifts constructed.

During the Disposal Phase, other areas of the repository may be used for activities that support salt repository technology development programs. These activities are generally conducted in the vicinity of the Air Intake Shaft. Table B-1 contains examples of recently completed nonwaste tests, their location, purpose, methods, and their durations. Tests do not involve or impact the TRU mixed waste disposal operations, the integrity of the WIPP facility, or the permitting of the HWMUs.

³Typically, contamination that is less than six square feet in area and less than 2000 disintegrations per minute (dpm) alpha or 20,000 dpm beta/gamma, may be decontaminated. Containers that exceed these thresholds will be returned to the point of origin for decontamination.

1 **B-1b(1) Surface Hazardous Waste Management Units**

2
3 The WHB is the surface facility where waste handling activities will take place (Figure B-3). The
4 WHB has a total area of approximately 84,000 square ft (ft²) (7,803 square m (m²)) of which
5 33,175 ft² (3,083 m²) are designated for the waste handling and storage of CH TRU mixed waste
6 and 21,318 ft² (1,981 m²) are designated for the waste handling and storage of RH TRU mixed
7 waste, as shown in Figure B-3. These areas are being permitted as a container storage unit.
8 The concrete floors are sealed with an impermeable coating that has excellent resistance to the
9 chemicals in TRU mixed waste and, consequently, provide secondary containment for TRU
10 mixed waste. In addition, a parking area (Figure B-3a) south of the WHB, having a surface area
11 of 272,500 ft² (25,315 m²), will be used for storage of waste in sealed shipping containers
12 awaiting unloading. This area is also being permitted as a container storage unit. The sealed
13 shipping containers provide secondary containment in this HWMU. System descriptions for the
14 WHB HWMU and TRU mixed waste handling systems and a description of the impermeable
15 coating are provided in Sections D-10a(2)(b), D-10a(2)(c), D-10a(2)(d), and D-10a(3).

16
17 **B-1b(1)(a) CH TRU Mixed Waste Handling**

18
19 The CH TRU mixed waste handling process is diagrammed in Figure D-36. CH TRU mixed
20 waste will arrive by tractor-trailer at the WIPP facility in sealed shipping containers (e.g.,
21 TRUPACT-IIs) (see Figure D-27). Upon receipt, security checks, radiological surveys, and
22 shipping documentation reviews will be performed. A forklift will remove the TRUPACT-IIs and
23 transport them a short distance through an air lock that is designed to maintain differential
24 pressure in the WHB. The forklift will place the shipping containers at one of the two
25 TRUPACT-II unloading docks (TRUDOCK) inside the WHB, where an external survey of the
26 TRUPACT-II inner vessel (see Figure D-27) will be performed as the outer containment vessel
27 lid is lifted. The inner vessel lid will be lifted under the TRUDOCK vent-hood system (VHS), and
28 the contents will be surveyed during and after this lift. The TRUDOCK VHS provides
29 atmospheric control and confinement of headspace gases at their source. It also prevents
30 potential personnel exposure and facility contamination due to the spread of radiologically
31 contaminated airborne dust particles and minimizes personnel exposure to volatile organic
32 compounds (VOC).

33
34 All contamination surveys at the WIPP facility are based on the concept of co-detection.
35 Co-detection is used to describe the detection of releases from containers by virtue of detection
36 of radioactive contamination (see Appendix I3). Co-detection applies to all releases except the
37 release of gaseous VOCs from TRU mixed waste containers. Co-detection provides the WIPP
38 facility with a very sensitive method of detecting the release of nongaseous hazardous
39 constituents through the use of surface sampling (swipes) and radioactivity counting.

40
41 If contamination is detected, the TRUPACT-II may be sealed until a determination is made as
42 to how to proceed. Due to the double containment design of the TRUPACT-II, it always provides
43 secondary containment when waste is inside. Depending on the amount and nature of the

radioactivity and the area that is contaminated, the options include: 1) decontaminating in situ, 2) sealing the TRUPACT-II and shipping it back to the generating storage site, 3) shipping the TRUPACT-II to another DOE site, or 4) shipping the TRUPACT-II to a third party contractor. The determination of disposition will be made by Waste Handling Operations in consultation with Operational Health Physics.

Written procedures (available at the WIPP facility for inspection) specify materials, protocols, and steps needed to put an object into a safe configuration for decontamination of surfaces. A Radiological Work Permit will always be prepared prior to decontamination activities. TRU mixed waste products from decontamination will be managed as derived waste.

The TRUPACT-II may hold up to two seven-packs, two standard waste boxes (SWB), or one ten-drum overpack (TDOP). A five-ton overhead bridge crane will be used to remove the contents of the TRUPACT-II. Waste containers will be surveyed for radioactive contamination and decontaminated or returned to the TRUPACT-II as necessary.

For inventory control purposes, TRU mixed waste container identification numbers will be verified against the Uniform Hazardous Waste Manifest and other shipping documentation. The manifest identification codes will be checked against the identification codes of the containers received. Inconsistencies will be resolved with the generator before TRU mixed waste is emplaced. If inconsistencies cannot be resolved, the TRUPACT-II and waste containers will be shipped back to the generator/storage site. Waste awaiting the resolution of manifest discrepancies will be stored in the storage area in the southeast corner of the CH Bay (Figure B-4a).

Each facility pallet will accommodate four seven-packs, four SWBs, four four-packs of 85-gallon drums, or two TDOPs. Waste containers will be secured to the facility pallet (see Figures D-29 and D-30) prior to transfer. A forklift will transport the loaded facility pallet to the conveyance loading car inside the air lock at the Waste Shaft (see Figure B-4). The conveyance loading car will be driven onto the waste hoist deck, where the loaded facility pallet will be transferred to the waste hoist, and the loading car will be backed out.

Figure D-36 provides the CH TRU mixed waste flow diagram with time estimates given for each step.

B-1b(1)(b) RH TRU Mixed Waste Handling

The RH TRU mixed waste handling process, using equipment installed at several different floor levels (Figures D-7 and D-8), is illustrated in Figure D-37. RH TRU mixed waste will arrive at the WIPP facility in a shielded road cask loaded on a tractor-trailer or in a railroad cask loaded on a railcar. Figure D-38 is a flow diagram of the RH TRU mixed waste handling process.

Upon arrival, radiological surveys, security checks, and shipping documentation reviews will be performed. Upon completion of these checks, the hazardous waste manifest will be signed to

1 release the driver. Should radiological surveys (i.e., surface dose rate, contamination) exceed
2 acceptable levels, the road cask and transport trailer will be placed outside the WHB in the
3 controlled area or in the WHB itself. Factors such as weather conditions, time of receipt, and
4 space availability will determine the actual location for placement of the road cask and transport
5 trailer. In the event that fixed and/or removable contamination is detected on the external
6 surface of the road cask in excess of WIPP free release limits, Waste Handling Operations, in
7 conjunction with Operational Health Physics, would assess the situation and formulate a plan of
8 recovery to decontaminate the road cask.

9
10 In the RH Bay, the shielded cask will be unloaded from the tractor-trailer or railcar via a 140-ton
11 bridge crane and will be placed on the cask transfer car. The outer cask lid will be removed, and
12 the inner cask lid will be prepared for removal. The shielded cask will be moved into the
13 unloading room of the hot-cell complex and will be positioned under the hot-cell unloading port
14 (Figure D-7), where the cask-seal collar will be mated with the unloading port. At this point, all
15 personnel will leave the area, and the shield door will be closed. This area will remain an
16 exclusion area until the shielded road cask is unloaded, the waste is moved into the hot cell, and
17 the Hot-Cell shield plug is reinstalled.

18
19 Once the shielded road cask is empty, it will be moved on the road-cask transfer car back to the
20 RH Bay. Surveys will be performed on the cask to detect exterior contamination, if any, and
21 decontamination will be performed, if necessary.

22
23 In the hot-cell operating gallery, the RH TRU mixed waste canister will be checked against the
24 identity on the hazardous waste manifest and the WIPP Waste Information System to verify that
25 the canister is suitable for emplacement. The generator's copy of the manifest is then returned
26 to the generator. If there are any discrepancies, the generator will be contacted for resolution.
27 Discrepancies that are not resolved within 15 days will be reported to the NMED as required by
28 20 NMAC 4.1, Subpart V, §264.72. If a resolution is not reached within 30 days, a decision will
29 be made whether to continue seeking resolution or to ship the canister back to the site that
30 shipped the canister.

31
32 Trained operators will take sample swipes from the canisters using remotely controlled
33 equipment. These samples will be removed to the gallery via the shielded transfer drawer and
34 will be checked for contamination. If a canister is contaminated or physically damaged, it will
35 be decontaminated or overpacked. Since contamination on a canister can only be detected after
36 it is in the Hot Cell, decontamination or overpacking is the least impactful to WIPP operations.
37 Reloading a canister into the road cask is more likely to spread the contamination than
38 overpacking. Upon the completion of the overpack, a sample swipe will be taken to verify that
39 no external contamination exists. When a canister or an overpack is verified to be within
40 acceptable limits, it will either be stored in the Hot Cell or lowered into the Transfer Cell (Figure
41 D-8).

Operations in the Transfer Cell will be monitored by a closed-circuit television. In the Transfer Cell, canisters will be moved to the (facility) cask-loading room port via a shuttle car. In the cask-loading room, the canister will be hoisted into a facility cask (Figure D-37). This will be accomplished by lifting the canister from the shuttle car through a shield valve and into the facility cask oriented vertically on the facility-cask transfer car in the cask loading room. The shuttle car will position the canister directly under the cask-loading room shield valve. The telescoping port shield mates with the underside of the facility cask to ensure shielding continuity, as does the shield bell, located above the facility cask. The operating console for these operations is located behind a shadow shield (Figure D-7). Once the canister is loaded and the facility cask shield valves are closed, the facility cask will be rotated to the horizontal position. A shield door will then be opened, accessing the waste hoist. The facility-cask transfer car will be loaded onto the waste hoist and will be lowered to the waste shaft station underground.

Figure D-38 provides the RH TRU mixed waste flow diagram with normal operational waste management time requirements for each step. Sections D-10a(2)(b)(ii), D-10a(2)(d), and D-10a(3)(c) contain more detailed descriptions of the RH mixed waste handling equipment and process.

Figure B-3 shows the portions of the WHB that comprise the container storage unit. The waste transport routes in the WHB for both CH and RH waste are shown on Figure B-4.

B-1b(1)(c) Container Storage Volumes

The maximum processing rate for CH waste is 14 TRUPACT-IIs per day, or seven pallet loads. Two shifts per day are planned, four days per week. The fifth day is for equipment maintenance with weekends available for more extensive maintenance, when necessary. The maximum volume planned for storage in the WHB is eight pallets, with waste containers stacked two high, corresponding to a maximum of 2,122 ft³ (60.1 m³). One of these positions, shown in Figure B-4a on the south wall of the CH Bay is reserved for waste that is the subject of a manifest discrepancy. This area is along the East wall adjacent to the waste hoist and the RH bay (Figure B-4a). Secondary containment consists of the WHB floor (Section D-1a(4)(b)). Since the facility pallets elevate the waste approximately six inches from the floor, none of the containers would stand in any liquid. Volumes of derived waste up to 66.3 ft³ (1.88 m³), in a SWB or 55-gallon drums, will be located as shown in Figure B-4a, astride the firewater collection trench, which provides secondary containment. In addition, four TRUPACT-IIs containing up to 8 seven-packs or 8 SWBs (530 ft³ [15 m³]) may occupy the staging positions at the TRUDOCKs. Since these waste containers would be in the TRUPACT-II container, no additional secondary containment is necessary.

Contingent TRU mixed waste storage space is available within those areas of the WHB should off-normal events occur that interrupt the timely movement of TRU mixed waste into the underground. The most likely off-normal events are expected to be caused by equipment malfunctions, or contaminated shipments that are not immediately resolved. Overnight or

weekend staging of pallet loads of waste is part of the normal waste management process, and occurs within designated storage areas.

The amount of RH TRU mixed waste disposal planned is two canisters per day or eight per week on the same shifts as CH waste operations. The shuttle car in the transfer cell has seven positions for holding canisters. Shipments of CH, RH, or both will be discontinued temporarily if something occurs that prevents emplacement for more than three days. The storage capacity is seven canisters (limit of positions in the Transfer Cell), corresponding to 220 ft³ (6.23 m³) and five positions in the Hot Cell (Figure D-7) corresponding to 157 ft³ (4.45 m³). The floor and wall coatings provide an impermeable surface that serves as secondary containment in the Hot Cell and the Transfer Cell. The transfer car (Figure D-8) that holds the canisters is supported above the floor and has openings which keep the canisters from standing in liquid.

Generally, only one trailer or railcar would be parked in the RH Bay at any time. Since there is only one cask transfer car, only one cask at a time will be unloaded.

The area extending South from the WHB across the rail sidings is defined as the parking area container storage unit (HWMU) (Figure B-3a). This area provides space for 12 loaded TRUPACT-IIs and three loaded road casks or four rail casks, corresponding to 1,536 ft³ (43.5 m³) of CH waste and 125.6 ft³ (3.56 m³) of RH waste. Secondary containment and protection of the waste containers from standing liquid are provided by the transportation containers.

Storage of CH waste in the WHB container storage unit with volumes greater than 2,719 ft³ (77.0 m³) would be stored only under emergency conditions, in accordance with 20 NMAC 4.1, Subpart IX, §270.61. Storage of RH waste in excess of the 377 ft³ (10.7 m³) is considered an inconceivable condition. RH would remain in the shipping containers in the parking area, if stored at all.

B-1b(2) Underground Hazardous Waste Management Units

B-1b(2)(a) CH Waste Disposal

The waste hoist will lower the loaded facility pallet to the underground. At the waste shaft station, the CH TRU underground transporter will back up to the waste hoist cage, and the facility pallet will be transferred from the waste hoist onto the transporter (see Figure D-31). The transporter will then move the facility pallet to the appropriate HWMU for emplacement (see Figure B-8).

Forklifts with special lift fixtures will be used to remove the waste containers from the facility pallets and to stack them three high in the HWMU. The waste will be emplaced room by room. Each panel is an HWMU with a capacity to dispose an average of 621,600 ft³ (17,600 m³) of waste, assuming that 60 percent are drums and 40 percent are SWBs. The panels will be successively filled and closed, beginning with Panel 1 and continuing through Panel 8. Panels

9 and 10 may be used if needed. Their sequence will be determined at the time they are needed and permitted.

Panel construction will occur during the other shift so there is no overlap between the mining operations and waste handling on the same shift underground. Figure B-8 shows the underground construction traffic pattern.

B-1b(2)(b) RH Waste Disposal

The waste hoist will lower the loaded facility cask to the underground. At the waste shaft station underground, the facility cask will be moved from the waste hoist cage by the facility-cask transfer car. A forklift will be used to remove the cask from the transfer car and to transport the loaded facility cask to the HWMU. There the facility cask will be placed on the horizontal emplacement equipment (Figure D-33), which will have been previously aligned with a horizontal hole bored into the room wall. The horizontal emplacement equipment assembly, along with the facility cask, has multiple shield valves which can be sequentially opened or closed to protect the waste handling operators. The emplacement equipment will insert the canister into the horizontal hole. A shield plug will then be inserted into the hole to provide radiation shielding which is not intended to seal off the borehole. RH waste transport underground follows the same path as CH waste.

Each panel has the capacity to contain 22,900 ft³ (649 m³) of RH TRU waste. The ten-year period for the first permit will encompass a maximum of 1,840,000 ft³ (52,110 m³) of CH and 69,000 ft³ (1,954 m³) of RH in three HWMUs (Figure B-2a).

Using the above HWMU disposal capacity, more than eight panels would be needed to meet the WIPP facility limit of 6.2 million ft³ (175,600 m³) of waste. The four disposal area access drifts are considered for expansion of the disposal volume to that maximum. However, the ground conditions will have to be assessed prior to a final decision on use of that area of the underground for disposal. Since this will occur near the end of the projected facility life, a future permit or a permit modification would be submitted for these two additional HWMUs. These drifts are not wide enough for RH canisters to be emplaced.

B-1b(2)(c) Backfill

As specified in Appendix D22, MgO will be used as a backfill in order to provide chemical control over the solubility of radionuclides in order to comply with the requirements of 40 CFR 191.13. The MgO backfill will be purchased prepackaged in the proper containers for emplacement in the underground, eliminating handling and placement problems associated with bulk materials, such as dust creation. It also reduces potential worker exposure to radiation. Should a backfill container be breached, MgO is benign and cleanup is simple. No hazardous waste would result from a spill of backfill.

1 The MgO backfill will be purchased and received in two different containers: 1) a super sack
2 holding 4,000 pounds (lbs) (1,814 kilograms [kg]); and 2) a mini sack holding 25 lbs (11.3 kg).
3 The filled containers will be shipped by road or rail and will be delivered underground using
4 current shaft and material handling procedures and processes.

5
6 The mini sack will be 34 inches (in) (86.4 centimeters [cm]) long, 6 in. (15 cm) in diameter, and
7 will be fabricated of a single layer of polyethylene or other suitable material with an integral
8 handle/hook attached into the sack closure. Six mini sacks will be manually placed in the
9 external voids of each 7-pack unit just before the 7-pack is positioned on the waste stack. The
10 mini sack will be lifted up behind the shrink wrap around the top of the 7-pack, slid into place,
11 and held there by the 4 in. hole in the lower slip sheet. See Figure D-30A. Once the sacks are
12 in place, the 7-pack will be positioned on the waste stack in the normal manner. A similar
13 process will be used for SWBs except that the mini sacks will be hung from the lift clips on these
14 units.

15
16 Super sacks will be handled and placed using the technique used for normal waste handling
17 operations. Once each row of waste units is in place, a layer of six super sacks will be placed
18 on top of them. See Figure D-30B. The super sack will be 5 ft (1.5 m) wide by 6 ft (1.8 m) deep
19 by 1.5 ft (0.5 m) high and will be of multi-wall construction with a vapor/moisture barrier. The
20 super sack will have an integral slip sheet or base attachment so that it can be handled and
21 placed in a manner that is identical to how waste units are emplaced.

22
23 Finally, mini sacks will be manually stacked on the floor in the space between the waste stack
24 and ribside, placed horizontally or vertically as may be convenient. Backfill placed in this manner
25 is protected until exposed, when sacks are broken during creep closure of the room and
26 compaction of the backfill and waste. There are no mine operational considerations (e.g.
27 ventilation flow and control) when backfill is placed in this manner.

28 29 B-1b(3) Description of Containers

30 31 B-1b(3)(a) CH Waste Containers

32
33 CH TRU mixed waste containers will be either 55-gallon (gal) (208-liter [L]) drums singly or
34 arranged into seven-packs, 85-gal (321-L) drums singly or arranged into four-packs, TDOPs, or
35 SWBs. RH mixed waste containers will be canisters. A summary description of each container
36 type is provided below.

37
38 Standard 55-gal (208-L) drums meet the requirements for Department of Transportation (DOT)
39 specification 7A regulations. Standard 55-gal (208-L) drums will generally be used as TRU

mixed waste containers for collecting derived waste. A standard 55-gal (208-L) drum has a gross internal volume of 7.4 ft³ (0.208 m³). Figure D-3 shows a standard TRU mixed waste drum. A carbon-composite filtered vent will be installed in the drum lid by the generator, to prevent the escape of any radioactive particulates and to eliminate any potential of pressurization.

Standard 55-gal (208-L) drums are constructed of mild steel and may also contain rigid, molded polyethylene (or other compatible material) liners. These liners are procured to a specification describing the functional requirements of fitting inside the drum, material thickness and tolerances, and quality controls and required testing. A quality assurance surveillance program is applied to all procurements to verify that the liners meet the specification. The drum material and liner will not react with, and will be otherwise compatible with, the TRU mixed waste, so that the ability of the container to contain the TRU mixed waste will be not impaired. Appendix C1 provides a discussion of compatibility.

The SWBs meet all the requirements of DOT specification 7A regulations. The SWBs are fitted at the generator sites with a standard carbon-composite filter as required for shipment in a TRUPACT-II and for safety during TRU mixed waste storage. They have an internal volume of 66.3 ft³ (1.88 m³). Appendix D3 provides detailed design drawings for the SWBs (165-F-001-W).

The 85-gal (321-L) drums meet the requirements for DOT specification 7A regulations. The drums are required to have a nominal life of 20 years from the date of TRU mixed waste certification. These drums are also equipped with filter vents.

The 85-gal (321-L) drum overpack, which is shown in Figure D-5, will be used primarily for overpacking contaminated 55-gal (208-L) drums at the WPP facility, but can also be used for derived waste, should there be a need for a container of that size.

The TDOP is a metal container, similar to a SWB, that meets DOT specification 7A and is certified to be noncombustible and to meet all applicable requirements for Type A packaging. The TDOP is a welded-steel, right circular cylinder, approximately 74 inches (in.) (1.9 meters (m) high and 71 in. (1.8 m) in diameter (Figure D-4). The maximum loaded weight of a TDOP is 7,265 pounds (lbs) (3,294.7 kilograms (kg)). A bolted lid on one end is removable; sealing is accomplished by clamping a neoprene gasket between the lid and the body. filter ports are located near the top of the TDOP. Each TDOP contains carbon-composite filters. A TDOP may contain up to ten standard 55-gal (208-L) drums or one SWB. TDOPs may be used to overpack drums or SWBs containing CH TRU mixed waste.

CH TRU waste containers are continuously vented. The filter vents allow aspiration, preventing internal pressurization of the container and minimizing the buildup of flammable gas concentrations.

1 **B-1b(3)(b) RH Waste Containers**

2
3 The RH canister meets all the requirements of DOT specifications 7A regulations. It is a carbon-
4 steel single-shell container measuring 26 in. (0.7 m) in diameter, with an overall length of 121 in.
5 (3.1 m), with a gross weight of 8,000 lbs (3,636 kg). The canister is vented using a carbon-
6 composite high-efficiency particulate air-grade filter and is capable of overpacking three 30-gal
7 (114-L) or 55-gal (208-L) waste drums or packaging uncontainerized waste. The top of the
8 canister has a round plate pintle for remote handling purposes.

9
10 The overpack RH TRU waste canister is the same as the RH canister, except it is 28 in. (0.7 m)
11 in diameter and 133 in. (3.4 m) in maximum length and weighs a maximum of 10,000 lbs
12 (4,535.0 kg) when loaded.

13
14 **B-1c The WPP Site**

15
16 There are three basic groups of structures associated with the WPP facility that will be used for
17 the Disposal Phase: surface structures, shafts, and underground structures (Figures B-5 and
18 B-6). Surface structures accommodate the personnel, equipment, and support services required
19 for the receipt, preparation, and transfer of TRU mixed waste from the surface to the
20 underground. The surface structures are located within a perimeter security fence, and access
21 is controlled 24 hours a day by security officers. Among surface structures (Figure B-6) other
22 than the WHB, the ones that support TRU mixed waste management are:

23
24 Exhaust Filter Building - houses the filter banks to which the underground ventilation
25 can be diverted in the unlikely event of a release of radionuclides. A description of
26 the underground ventilation system is provided in Section D-10a(2)(f).

27
28 Guard and Security Building - houses the facility security personnel and
29 communications equipment necessary for them to perform their duties. Section G-4a
30 specifies the duties of the security officers relative to contingency actions.

31
32 Safety and Emergency Services Building - houses the surface emergency response
33 vehicles (fire truck, rescue truck, ambulance), Health Services (first aid), Emergency
34 Operations Center, and the Dosimetry Laboratory. Inspection of the emergency
35 response equipment is identified in Table F-1. Table G-6 describes emergency
36 equipment and associated locations.

37
38 Support Building - houses the Central Monitoring Room (see section G-4a).

39
40 TRUPACT-II Maintenance Facility - located west of the CH bay, houses equipment
41 required for conducting preventive maintenance and other activities required by the
42 NRC to maintain the Certificate of Compliance. No TRU waste management activities
43 will occur in this facility.

The WIPP facility has been divided into functional areas as shown in Figure B-7. The Property Protection Area (PPA), formerly referred to as Zone I, surrounded by a chain-link security fence, encompasses 34.16 acres (ac) (0.14 square km) and provides security and protection for all major surface structures. The DOE Off Limits Area encloses approximately 1,454 ac (589 hectares) and serves the function of defining the DOE exclusion zone within which certain items and materials (e.g., firearms) are prohibited. The final zone is marked by the WIPP Site Boundary (WIPP land withdrawal area), a 16-section (16-square-mi [41-square-km]) federal land area under the jurisdiction of the DOE. The land sections were withdrawn by the LWA, which authorized the use of the land for TRU waste emplacement. Volumetrically, the WIPP withdrawal area can be visualized as both surface and the underlying areas extending vertically to the center of the earth, with the exception of Section 31, where the depth of the withdrawal is to 6,000 ft (1,828 m).

In terms of the *facility*, the RCRA facility is referred to as the WIPP facility and is the area contained within the WIPP Site Boundary. The active portion of the WIPP facility includes the WHB container storage HWMU, the parking area container storage HWMU, and ten underground HWMUs for which a permit is sought.

There are other areas within the WHB and the underground that have been constructed and equipped to ensure compliance with the general facility standards in 20 NMAC 4.1, Subpart V, and the environmental compliance standards to ensure safe waste handling disposal, public and worker safety, and environmental protection. These include the contingency response waste management areas (such as portions of the WHB), the waste shaft, the waste haulage ways, the underground ventilation system, the underground fire protection and emergency response areas and equipment, the underground communication system within the TRU mixed waste handling areas, and the emergency evacuation equipment. Chapter G provides a full description of contingency plans in Sections G-3 and G-4, and response equipment in Section G-5. Also shown on Figure B-6 is Facility No. 474 (Hazardous Waste Storage Facility), which is an area designated for management of non-mixed hazardous wastes and materials. No permit is required for that facility.

Four vertical shafts connect the surface facility to the underground. These are the Waste Shaft, the Salt Handling Shaft, the Exhaust Shaft, and the Air Intake Shaft. The Waste Shaft will be used to transport TRU mixed waste to the underground. It is also used to transport materials, large equipment, and personnel. The Salt Handling Shaft is the primary route for personnel and mined materials; it carries power, control, monitoring, and communication cables and serves as the secondary air-supply duct for the underground ventilation. The Exhaust Shaft serves as the exhaust air duct for the underground. The Air Intake Shaft is the primary duct to supply fresh air into the underground and also serves as a backup for personnel egress from the underground during unusual or emergency events, when the previously mentioned shaft hoists are not operable.

The WIPP facility underground structures are located on the repository horizon 2,150 ft (655 m) under the surface. The underground structures include the active HWMUs, an area for future HWMUs (other panels), the shaft pillar area, interconnecting tunnels, and other areas unrelated to the Disposal Phase activities in this permit application. The underground HWMUs are defined as waste panels consisting of seven rooms and two access drifts each. The HWMUs included in this application are Panels 1 through 8 (Figure B-2), and the disposal area access drifts, designated as Panels 9 and 10. Each room has the nominal dimensions of 300 ft (91.4 m) long, 33 ft (10 m) wide, and 13 ft (4 m) high. Access drifts connect the rooms and have the same cross section. Figure B-8 is a map showing the movement of the TRU mixed waste through the facility into Panel 1 and the return route for the transporter. Detailed descriptions of the panel and room system are provided in Section D-10a(2)(f). The configuration (stacking) of the TRU mixed waste in the room will be seven-packs of drums and SWBs, three high, either separated or intermixed. Occasionally TDOPs and 85-gal drum overpacks may be emplaced in the stack. The ventilation system is described in Section D-10a(2)(f). The DOE intends to operate the WIPP facility in a manner that minimizes the number of HWMUs that are open at any one time. Generally, panels will fall into one of six categories:

- Unmined (future) panels
- The panel undergoing mining
- The panel being filled with waste
- The filled panel being closed
- Closed panels
- Disposal area access drifts

B-2 Topographic Map

Topographic maps of the WIPP site and facility, as required by 20 NMAC 4.1, Subpart IX, §270.14(b)(19), are presented in Figures B-9 and B-10. In accordance with the note located at the end of 20 NMAC 4.1, Subpart IX, §270.14(b)(19), and due to the large size of the facility, the scale on Figure B-9 is 1 inch = 1,000 ft. Contour lines on Figures B-9 and B-10 are at intervals of 10 ft (3 m) (except those within the PPA fence on Figure B-10, which equal 1 ft. [0.3 m]), reflecting the flat desert-plain topography at the WIPP site. In addition, a contour map at the approximate midheight of the underground facility is presented in Figure B-11 and depicts the elevation of the underground unit relative to sea level. Appendix D3 contains drawings showing the details of site drainage.

B-2a General Requirements

A map scale, date, and north arrow are shown on Figures B-9 and B-10. The WIPP facility is not in a 100-year floodplain, and there are no major surface-water bodies within 10 mi (16.1 km) of the site. Therefore, these requirements are not included on Figure B-9 or Figure B-10.

There are no hydrocarbon production wells within the volumetric boundary defined by the land withdrawal. One active well, referred to as James Ranch 13, was drilled in 1982 to tap gas resources beneath Section 31. This well was initiated in Section 6, outside the WIPP site boundary, and slanted to enter Section 31, north of Section 6 and within the WIPP site boundary. The well enters beneath Section 31 below a depth of 6,000 ft (1,828 m) beneath ground level.

Grazing leases have been issued for all land sections immediately surrounding the WIPP facility. Information regarding other land uses on and near the WIPP facility is illustrated in Figures B-12 through B-17. Access control features, such as fences and gates, buildings, and other surface structures, are illustrated in Figure B-10. Site security is addressed in Section D-10a(2)(a). Environmental performance standards are discussed in Section D-9b, and the following subsections address protection of groundwater, surface water, and the atmosphere. Chapter D also contains the following information: WHB (D-10a(2)(b)), facility design and construction (D-10a(2)), CH TRU mixed waste handling equipment (D-10a(2)(c)), RH TRU mixed waste handling equipment (D-10a(2)(d)), shafts and underground facilities (D-10a(2)(e)), and storm water drainage (D-9b(3)). Section G-4d and Table G-7 provide fire control measures information.

B-2b Additional Requirements for Land Disposal Facilities

The point of compliance for environmental performance standards is the WIPP facility boundary (Section D9b(4)(b)), instead of the nearest resident, which is an additional half mile outside of the boundary (Figure B-7). Section D9-b(1)(c) provides additional discussion on this subject. This conservative assumption is made to be consistent with DOE radiation protection practices. Air emissions from underground and WHB HWMU exhausts are the only pathway of concern. (Because the waste is not in liquid form and waste containers are required to be closed at all times, waste mobility during operations is very limited.) An environmental pathway analysis and assessment of the environmental performance of the miscellaneous unit are included in Section D9b.

Environmental performance groundwater monitoring is not considered necessary for the Disposal Phase because the waste is not in liquid form per 20 NMAC 4.1, Subpart V, §264.90(b)(2), and because there is no pathway that will allow waste constituents or brines containing mixed waste constituents to contact other nearby groundwaters during operation or the 30-year post-closure care period. Sections E-1c and E-2 address groundwater monitoring, and Appendix E1 (Sections E1-2 and E1-6) presents RCRA groundwater protection information. Appendices D1 and D6 contain detailed descriptions of WIPP site characteristics, including geology and hydrology, and maps of known water-bearing zones. No contamination has, and it is highly improbable that any contamination will, enter the groundwater from the regulated unit.

Although the DOE has requested a waiver from the groundwater monitoring requirements, the NMED has indicated that their policy is not to grant such variances. Consequently, a groundwater monitoring plan is provided in Section D-10d(1)(a).

1 Emissions of hazardous VOCs are demonstrated to be far below levels of concern for protection
2 of workers, members of the public, and the environment (Section D-9b(4)). VOC emission
3 standards for containers in 40 CFR §264, Subpart CC, will not apply to the TRU mixed waste
4 containers because VOC emissions standards are currently deferred for mixed waste containers
5 generated after June 6, 1996. Mixed wastes generated prior to this date are exempted from
6 Subpart CC requirements.

7 8 B-3 Location Information

9
10 The WIPP facility is located in the Pecos River Valley section of the Great Plains physiographic
11 province in the north-central part of the Delaware Basin. The facility is north of the Jal Highway
12 (State Highway 128) in Eddy County, New Mexico (Figure B-18), and consists of 16 sections of
13 federal land in Township 22 South, Range 31 East. The latitude and longitude at the center of
14 the land withdrawal area is 32 degrees, 22 minutes, 30 seconds North, and 103 degrees,
15 47 minutes, 30 seconds West respectively.

16
17 Selection of the WIPP site followed an extensive study of potential sites and was based on
18 stringent site-selection criteria. Investigation of the geographic area proposed for the WIPP
19 facility, the Los Medaños region of southeastern New Mexico, began in 1973 with a careful
20 review of the extensive geologic database developed by potash and hydrocarbon industry
21 exploration in the area. The results of this review were favorable, and detailed characterization
22 of the present site was initiated in 1976 with drilling of a stratigraphic borehole, ERDA-9, at the
23 center of the proposed site. For details regarding WIPP site characterization, geology, and
24 hydrology, see Appendix D6.

25
26 Between 1975 and 1988, over 95 boreholes were drilled, and over 35,000 ft (10,668 m) of core
27 were retrieved specifically for geologic evaluation of the site. More than 40 of these boreholes
28 have been used to acquire hydrologic data needed to establish models of local and regional
29 hydrology. A detailed and exhaustive study of the geology of the WIPP vicinity was completed
30 in 1978. In addition, a variety of geophysical exploration techniques, including electrical
31 resistivity, seismic reflection, gravity, and magnetic surveys, have contributed to and updated
32 understanding of the many aspects of site geology.

33
34 A comprehensive WIPP Project research and development program began in 1975 with
35 investigations of salt-creep properties and constitutive laws, gas generation from the degradation
36 of TRU waste, corrosion behavior of TRU waste containers, and backfill behavior. From 1981
37 through 1983, field tests were conducted on waste package materials, large-scale salt
38 deformation, and brine transport in a potash mine near the WIPP site. Investigations in the
39 WIPP facility underground began in 1982 with the instrumentation of the Salt Handling Shaft and
40 selected underground drifts. An extensive underground (in situ) test program for
41 thermal/structural interactions, plugging and sealing, brine inflow, and waste package
42 performance began in 1983 and has recently been completed. The area used for these tests
43 are being deactivated (Figure B-2).

The SPDV program (1981-1983) was developed and implemented to permit direct observation of geologic conditions at the proposed repository horizon and to allow determination of the geomechanical response of the salt beds after excavation of underground workings. Two shafts were drilled, and a four-room test panel was excavated at the selected disposal depth. Extensive data from geologic investigations showed the geology of the disposal horizon to be consistent with predictions based on previous site investigations.

B-3a Seismic Standard

Located in Eddy County, New Mexico, the WIPP site is not listed in 20 NMAC 4.1, Subpart V, Appendix VI, "Political Jurisdictions in Which Compliance With §264.18(a) Must Be Demonstrated." Therefore, the WIPP site is assumed to be in compliance with the requirements of 20 NMAC 4.1, Subpart V, §264.18(a).

B-3b Floodplain Standard

The WIPP site does not lie within a 100-year floodplain. There are no major surface-water bodies within 10 mi (16 km) of the site. The site is 12 mi (19 km) from the nearest river, the Pecos River (Figure B-18). The general ground elevation in the vicinity of the surface facilities (approximately 3,400 ft [1,036 m] above mean sea level) is about 450 ft (137 m) above the river bed and 400 ft (122 m) above the 100-year floodplain. Although there are no flood-protection requirements for the WIPP site, the WIPP facility drainage and diversion structures, which include berms and dikes, have been constructed so that ponding, resulting from a probable maximum precipitation (PMP) event, will not affect surface or subsurface structures. The floor levels of all surface facilities are above the levels calculated for local flooding due to PMP events. Even though the elevation of the underground unit is over 2,000 ft (610 m) below the level of the surface unit, the underground unit is protected from flooding by berms and dikes that divert water away from the open shafts (the Salt Handling Shaft and Air Intake Shaft) as shown in Figure B-10.

B-3b(1) Demonstration of Compliance

The WIPP facility is not in a 100-year floodplain as defined in 20 NMAC 4.1, Subpart V, §264.18(b)(2)(i), and as regulated under 20 NMAC 4.1, Subpart V, §264.18(b)(1). Floodplain regulations are not applicable to the WIPP facility.

B-3b(1)(a) Flood-Proofing and Flood-Protection Measures

The WIPP facility is not in a 100-year floodplain as defined in 20 NMAC 4.1, Subpart V, §264.18(b)(2)(i), and as regulated under 20 NMAC 4.1, Subpart V, §264.18(b)(1). Flood-proofing and flood-protection measures are not applicable to the WIPP facility.

1 B-3b(1)(b) Floodplain

2
3 The WIPP facility is not in a 100-year floodplain as defined in 20 NMAC 4.1, Subpart V,
4 §264.18(b)(2)(i), and as regulated under 20 NMAC 4.1, Subpart V, §264.18(b)(1). Floodplain
5 regulations are not applicable to the WIPP facility.
6

7 B-3b(2) Plan for Future Compliance with Floodplain Standard

8
9 The WIPP facility is not in a 100-year floodplain as defined in 20 NMAC 4.1, Subpart V,
10 §264.18(b)(2)(i), and as regulated under 20 NMAC 4.1, Subpart V, §264.18(b)(1). The plan for
11 future compliance with the floodplain standard regulation is not applicable to the WIPP facility.
12

13 B-3b(3) Waiver for Land Storage and Disposal Facilities

14
15 The WIPP facility is not in a 100-year floodplain as defined in 20 NMAC 4.1, Subpart V,
16 §264.18(b)(2)(i), and as regulated under 20 NMAC 4.1, Subpart V, §264.18(b)(1). The waiver
17 for land-storage and disposal facilities regulation is not applicable to the WIPP facility.
18

19 B-4 Traffic Information

20
21 Access to the WIPP facility is provided by two access roads that connect with
22 U.S. Highway 62/180, 13 mi (21 km) to the north, and NM Highway 128 (Jal Highway), 4 mi
23 (6.4 km) to the south (Figure B-18). The northern access road, which connects the site to
24 U.S. Highway 62/180, is an access road built specifically for the DOE that will be used to
25 transport TRU mixed waste from the highway to the site. The southern access road is a county
26 highway maintained by Eddy County. Road-pavement materials and construction, as well as
27 other road features, were designed in accordance with specifications given by Bechtel (1981a⁴,
28 1981b⁵). Signs and pavement markings are located in accordance with the Uniform Traffic
29 Control Devices Manual (Bechtel, 1981a). Access-road design designation parameters, such as
30 traffic volume, are presented in Table B-2. Rail access is available and may be used for TRU
31 mixed waste transport during the Disposal Phase (RH casks) as an option. Railroad materials
32 and construction were designed to be in accordance with specifications given by Bechtel (1983),
33 including the four-axle railcar gross vehicle weight limit of 263,000 lbs. A six-axle railcar has
34 even greater gross vehicle weight limit, but is not required for the pay loads shipped to WIPP.
35

36 Rail access is from the west across the southern access road (marked by railroad crossing
37 signs), but does not cross the northern access road used by the tractor-trailers (Figure B-19).

38 ⁴Bechtel, 1981a. This document establishes the design requirements for the northern access road and contains information
39 applicable to the southern access road. Design standards applied include Standard Specifications for Road and Bridge Construction,
40 New Mexico State Highway Department (NMSHD) 1976, and Standard Details, NMSHD (latest edition).

41 ⁵Bechtel, 1981b. This specification covers the furnishings and constructing of aggregate and bituminous pavement for roads and
42 parking. Codes, specifications, and standards applied include AASHTO T 11-82, AASHTO T 27-82, AASHTO T 30-78 (R 1982),
43 AASHTO T 89-81, AASHTO T 90-81, AASHTO T 96-77 (R-1982), AASHTO T 104-77 (R 1982), AASHTO T 164-80, AASHTO T 165-
44 82, AASHTO T 166-78 (R 1982), AASHTO 167-82, AASHTO 245-82, ASTM D 1557-78, ASTM D 2216-80, and NMSHD-1976.

The roadway is raised above the surrounding terrain, ensuring clear visibility of all on-site rail movements. Security opens a locked gate at the West end of the PPA when rail shipments arrive and closes it while the locomotive is on site. The reverse takes place as the locomotive departs with the empty cask(s) on railcars. The road crossing will not be blocked for extended periods of time. A railcar mover is used to move railcars into and out of the WHB for waste handling operations when the locomotive is not on site. The alternate truck route to the parking area HWMU at the east end of the WHB will be staffed by waste operations personnel to protect the crossing during any railcar movements into or out of the WHB.

Access to the facility for personnel, visitors, and trucks carrying supplies and TRU mixed waste is provided through a security checkpoint (vehicle trap). After passing through the security checkpoint (see Figure F-1), TRUPACT-II TRU mixed waste transport trucks will normally turn right (south) before reaching the Support Building and then left (east) to park in the parking area HWMU just east of the air locks (Figure B-19). Outgoing trucks depart the same way they arrived, normally out of the west end of the parking area, north through the fence gate and out through the vehicle trap. An alternate inbound route is to continue straight ahead from the security checkpoint to the second road and to turn south to enter the truck parking area. The alternate outbound route is also the reverse of this route. Salt transport trucks, which remove mined salt from the Salt Handling Shaft area, will not cross paths with TRU mixed waste transporters; instead, they will proceed from the Salt Handling Shaft northward to the salt pile. Figure B-19 shows surface traffic flow at the WIPP facility.

The site speed limit for motor vehicles is 10 mph (16 kph) and 5 mph (8 kph) for rail movements. Speed limits are clearly posted at the entrance to the site and enforced by security officers. There are no traffic signals. Stop signs are located at the major intersections of roadways with the main east-west road. Safety requirements are communicated to all site personnel via General Employee Training within 30 days of their employment. Employee access to on-site facilities requires an annual refresher course to reinforce the safety requirements. Security officers monitor vehicular traffic for compliance with site restrictions, and provide instructions to off-site delivery shipments. Vehicular traffic other than the waste transporters use the same roads, but there will be no interference because there are two lanes available on the primary and alternate routes for waste shipments. Pedestrian traffic is limited to the sidewalks and prominently marked crosswalks. Site traffic is composed mostly of pickup trucks and electric carts with a frequency of perhaps 10 per hour at peak periods. Emergency vehicles are exercised periodically for maintenance and personnel training, with an average frequency of one each per day. They are used for their intended purpose on an as-required basis.

The traffic circulation system is designed in accordance with American Association of State Highway and Transportation Officials (AASHTO) Site Planning Guides for lane widths, lateral clearance to fixed objects, minimum pavement edge radii, and other geometric features. Objects

1 in or near the roadway are prominently marked in accordance with the standards in Bechtel,
2 1981c.⁶

3
4 On-site roads, sidewalks, and paved areas are used for the distribution and storage of vehicles
5 and personnel and are designed to handle all traffic generated by employees, visitors, TRU
6 mixed waste shipments, and movements of operational and maintenance vehicles (Bechtel,
7 1981c). The facility entrance and TRU mixed waste haul roads are designed for AASHTO
8 H20-S16 wheel loading (Bechtel, 1981c). Service roads are designed for AASHTO H10 wheel
9 loading (Bechtel, 1981c). Access and on-site paved roads are designed to bear the anticipated
10 maximum load of 80,000 lbs (36,287.2 kg), the maximum allowable weight of a truck/trailer
11 carrying loaded TRUPACT-IIs.

12
13 The facility is designed to handle an average of five truck trailers per day, each carrying three
14 TRUPACT-IIs and two truck trailers per day carrying one shielded road cask. Outbound
15 transporters with empty shipping containers will match that number daily. This is equivalent to
16 1,335 TRU mixed waste-carrying vehicles per year. Railcar shipments of road casks would offset
17 road shipments of RH TRU waste on a one-for-one basis. Railroad shipments of RH road casks
18 could be up to four per delivery, twice a week. The empties would be picked up and hauled
19 away by the departing locomotive. A loaded railcar could remain on the siding for a maximum
20 of five days, considering weekends, the maintenance day, and two days to process all four
21 shipments. A railroad cask could be developed to carry four RH canisters, which would reduce
22 the highway shipments even further.

23
24 Underground traffic, with and without TRU mixed waste, will travel on separated paths. The
25 ventilation and traffic flow path in the TRU mixed waste handling areas underground are
26 restricted and separate from those used for mining and haulage (construction) equipment (Figure
27 B-8). Non-waste and non-construction traffic use the same routes as waste and construction
28 traffic. In general, waste traffic will use the intake ventilation drift in that area. The exhaust drift
29 in the construction area will generally be used for mining/construction equipment for maximum
30 isolation of this activity from personnel. The exhaust drift in the waste disposal area will normally
31 not be used for personnel access. Non-waste and non-construction traffic is generally comprised
32 of escorted visitors only and is minimized during each of the respective operations.

33
34 Adequate clearances that exceed the mining regulations of 30 CFR 57 exist underground for
35 safe passage of vehicles and pedestrians. Pedestrians/personnel are given precedence over
36 vehicles in the WIPP underground facility. This condition is reinforced through the WIPP

37 ⁶Bechtel, 1981c. This document identifies the design requirements for on-site roads and sidewalks of the WIPP that are used for
38 distribution and storage of vehicles and personnel. Design standards applied include The Standard Specifications for Road and
39 Bridge Construction, New Mexico State Highway Department (1976); Standard Details, New Mexico State Highway Department
40 (Latest Edition); Geometric Design Guide for Local Roads and Streets, American Association of State Highway Officials (1971);
41 Thickness Design, Asphalt Pavement Structures for Streets and Highways (MS-1) 1970, The Asphalt Institute; Construction
42 Specifications for Asphalt Concrete (SS-1), The Asphalt Institute, current edition; Standard Specifications for Highway Bridges, The
43 American Association of State Highway and Transportation Officials (AASHTO), current edition; and Standard Specifications for
44 Transportation Materials and Methods of Sampling and Testing (AASHTO), current edition.

equipment operating procedures, the WIPP Safety Manual, the WIPP safety briefing required for all underground visitors, the General Employee Training annual refresher course, and the Underground annual refresher course that are mandated by 30 CFR 57, the New Mexico Mine Code, and DOE Order 5480.20A. 1
2
3
4

In addition, other physical means are utilized to safeguard pedestrians/personnel when underground such as: 5
6

All equipment operators are required to sound the vehicle horn when approaching personnel and intersections. 7
8

All airlock and bulkhead doors are equipped with warning bells to alert personnel when door opening is imminent. 9
10

Hemispherical mirrors are used at blind intersections so that persons can see around corners. 11
12

All heavy equipment is required to have operational back-up alarms. 13

Heavily used intersections are well lighted. 14

Typically, the traffic routes during waste disposal in all Panels (1 through 10) will use the same main access drifts. 15
16

All traffic safety is regulated and enforced by the federal and state mine codes of regulations (30 CFR 57 and New Mexico State Mine Code). The agencies that administer these codes make regular inspection tours of the WIPP underground facilities for the purpose of enforcement. 17
18
19

All underground equipment is designed for off-road use since all driving surfaces are excavated in salt. No loads on the underground roadways will exceed the bearing strength of in situ halite. In addition, mining construction will usually take place on a different work shift. 20
21
22

Since waste emplacement activities require a radiological work permit, personnel and materials entering the active emplacement room are strictly controlled. 23
24

List of References for Chapter B

- Bechtel, Inc. (Bechtel), 1983, "Waste Isolation Pilot Plant, Design Basis, Railroads," Doc. No. D-23-C-02, prepared for the U.S. Department of Energy, by Bechtel, Inc., Carlsbad, New Mexico.
- Bechtel, Inc. (Bechtel), 1981a, "Waste Isolation Pilot Plant, Design Basis, Access Roads," Doc. No. D-23-C-01, prepared for the U.S. Department of Energy, by Bechtel, Inc., Carlsbad, New Mexico.
- Bechtel, Inc. (Bechtel), 1981b, "Waste Isolation Pilot Plant, Division 2—Sitework, Specification, Roads and Paving," Doc. No. 76CO2505-000, prepared for the U.S. Department of Energy, by Bechtel, Inc., Carlsbad, New Mexico.
- Bechtel, Inc. (Bechtel), 1981c, "Waste Isolation Pilot Plant, Design Basis, On Site Roads and Paving," Doc. No. D-24-C-05, prepared for the U.S. Department of Energy, by Bechtel, Inc., Carlsbad, New Mexico.
- EPA—see U.S. Environmental Protection Agency.
- U.S. Congress, 1992, "Waste Isolation Pilot Plant Land Withdrawal Act," Public Law 102-579, Washington, D.C.
- U.S. Environmental Protection Agency (EPA), 1996, "Criteria for the Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations," 40 CFR 194.
- U.S. Environmental Protection Agency (EPA), 1993, "Environmental Radiation Protection Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes," 58FR66398.

TABLES

TABLE B-1
SUMMARY OF NONWASTE TESTS CONDUCTED
IN THE WIPP FACILITY

| Test Title | Location | Description | Duration |
|---|--|---|-----------------|
| Repository Plugging and Sealing Studies | Experimental Area (Rooms L1, L2, D) | Testing is designed to evaluate the procedures and techniques for installing plugs and seals and to evaluate the long-term physical and chemical behavior of candidate materials. The results are germane to the post-closure performance of the WIPP facility. | Complete (1995) |
| Rock Mechanics Experiments | Experimental Area (Rooms H, G1, A1, A2, A3, C1, C2) | A multiphase test is in progress to evaluate the geomechanical response of the rock formation to a range of stresses, including stresses in excess of those anticipated to be encountered in the underground facility. This information is germane to the prediction of the long-term behavior of salt. | Complete (1995) |
| TRU Waste Container Performance Experiments | Experimental Area (Rooms A1, A2, A3, B, T) | The performance of CH TRU and RH TRU container materials when exposed to anticipated long-term repository conditions is being evaluated. These tests are germane to estimating the corrosion rates on containers under severe repository conditions. | Complete (1995) |
| Thermal-Structural Interactions | Experimental Area (Rooms A1, A2, A3, T) | Testing of materials, including salt and backfill materials and waste package materials, is performed under a series of conditions ranging from dry to brine-saturated. Results are useful for estimating extreme case interactions between backfill materials and various waste components. | Complete (1994) |
| Brine Inflow Studies | Numerous locations (including Room Q near the base of the Air Intake Shaft, Rooms D, L4) | Brine sampling includes the collection of brine in a number of shallow boreholes distributed throughout the underground. Brine quantities are measured and brine samples are analyzed. Room Q is a circular room, configuration of which was selected to maximize the fraction of incoming brine that can be collected in instrumented containers and measured directly without the need to infer brine volumes. Data on brine inflow and chemistry are used to infer brine transport mechanisms. | Complete (1995) |
| Marker Bed Studies | Geotechnical Area (Rooms C1, C2, L3, D) | This study includes evaluations of the transmissivities of Marker Bed 139. Data are directly related to long-term repository transport mechanisms. | Complete (1995) |
| Facility Permeability | Throughout facility | The objective is to test the permeability of the nondisturbed zone at many locations from the north to south ends of the mine. | Complete (1995) |

TABLE B-2
WASTE ISOLATION PILOT PLANT SITE DESIGN DESIGNATION
TRAFFIC PARAMETERS^a

| Traffic Parameter | North Access Road (No. of Vehicles, unless otherwise stated) | South Access Road (No. of Vehicles, unless otherwise stated) | On-Site Waste Haul Roads (TRUPACT-II Traffic) |
|--|---|---|--|
| Average Daily Traffic (ADT) ^b | 800 | 400 | 6 |
| Design Hourly Volume (DHV) ^c | 144 | 72 | NA ^g |
| Hourly Volume (Max. at Shift Change) | 250 | 125 | NA |
| Distribution (D) ^d | 67% | 67% | NA |
| Trucks (T) ^e | 2% | 0 | 100% |
| Design Speed ^{h,i} | 70 mph (113 kph) | 60 mph (97 kph) | 25 mph (40 kph) |
| Control of Access ^f | None | None | Full |

^aFor WIPP personnel and TRU mixed waste shipments only.

^bADT—Estimated number of vehicles travelling in both directions per day.

^cDHV—A two-way traffic count with directional distribution.

^dD—The percentage of DHV in the predominant direction of travel.

^eT—The percentage of ADT comprised of trucks (excluding light delivery trucks).

^fControl of Access—The extent of roadside interference or restriction of movement.

^gNA—Not applicable.

^hmph—miles per hour.

ⁱkph—kilometers per hour.

FIGURES



Figure B-1
Aerial Photograph of the Waste Isolation Pilot Plant

Figure B-2a
Plan View of Waste Disposal Horizon Showing Underground Hazardous
Waste Management Units and Related Permits for Waste Emplacement

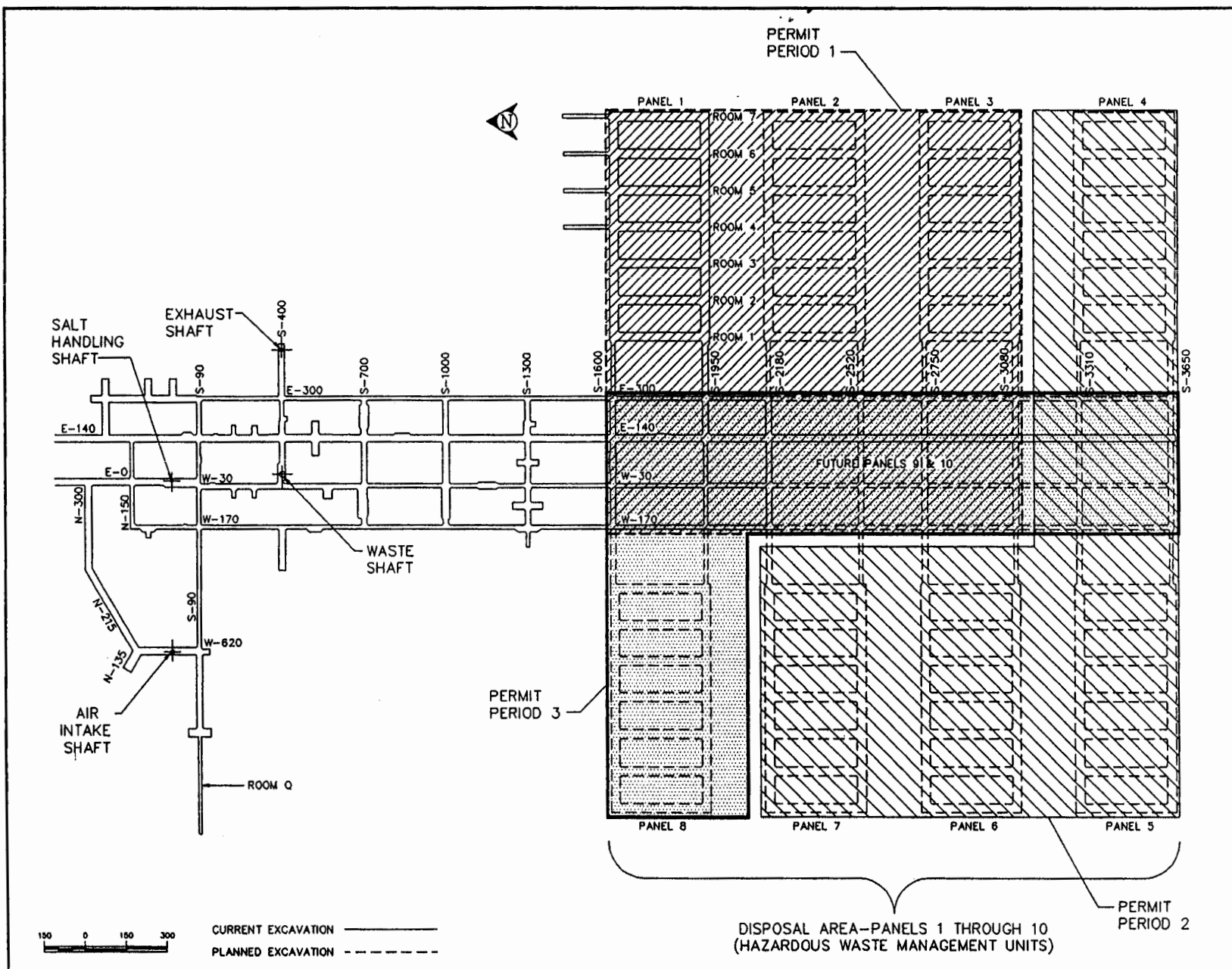
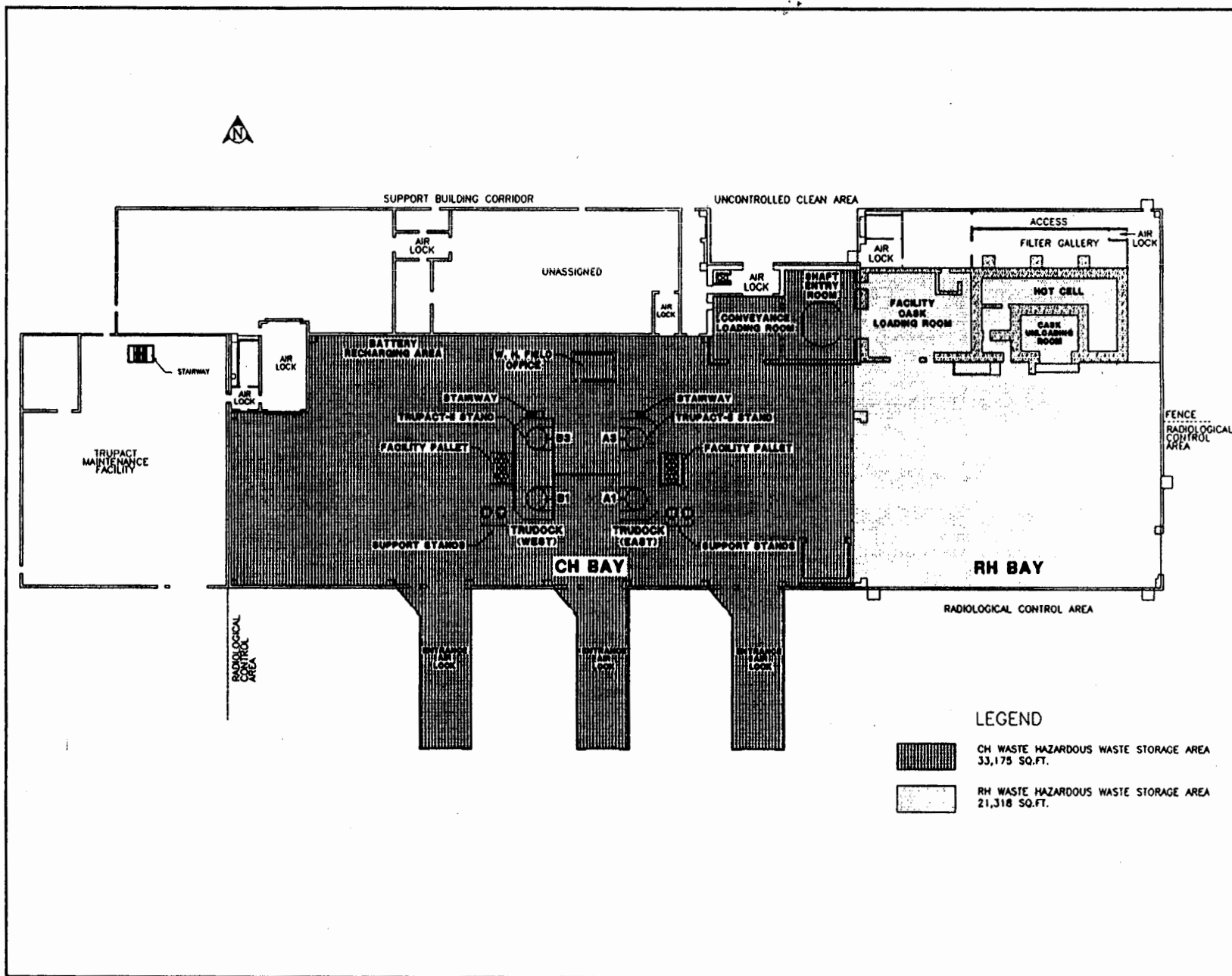


Figure B-3
Waste Handling Building - Container Storage Unit



B-38

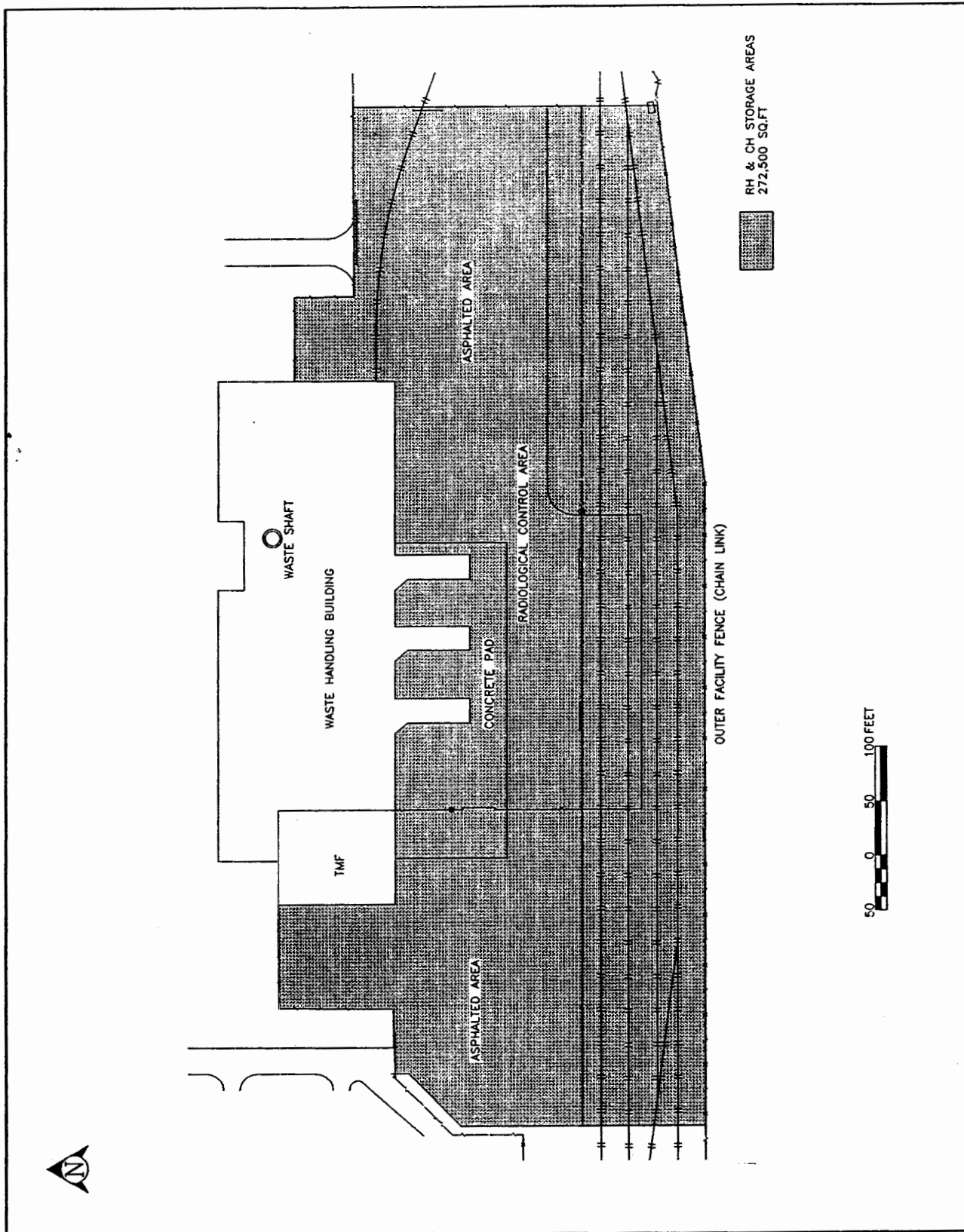


Figure B-3a
Parking Area - Container Storage Unit

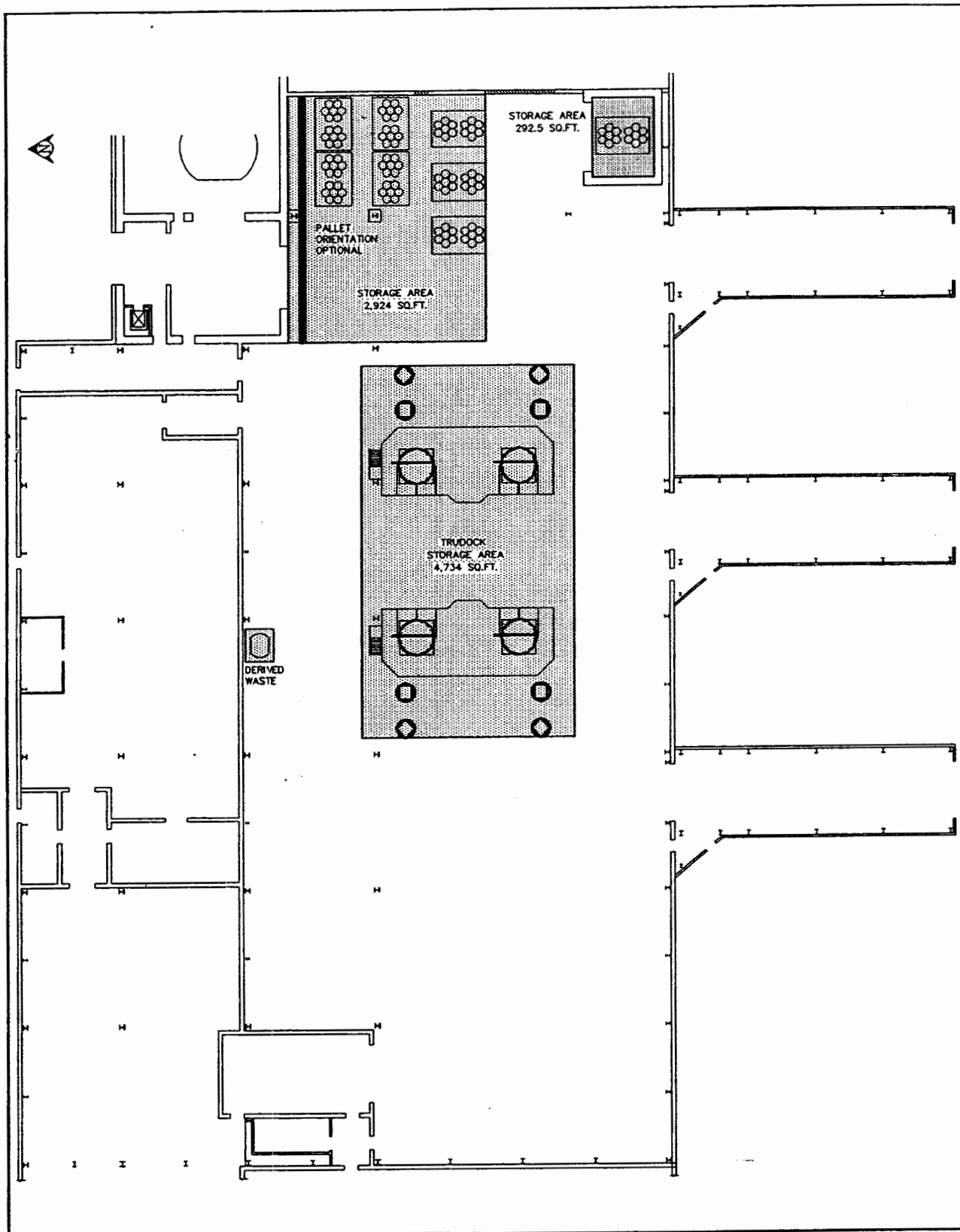
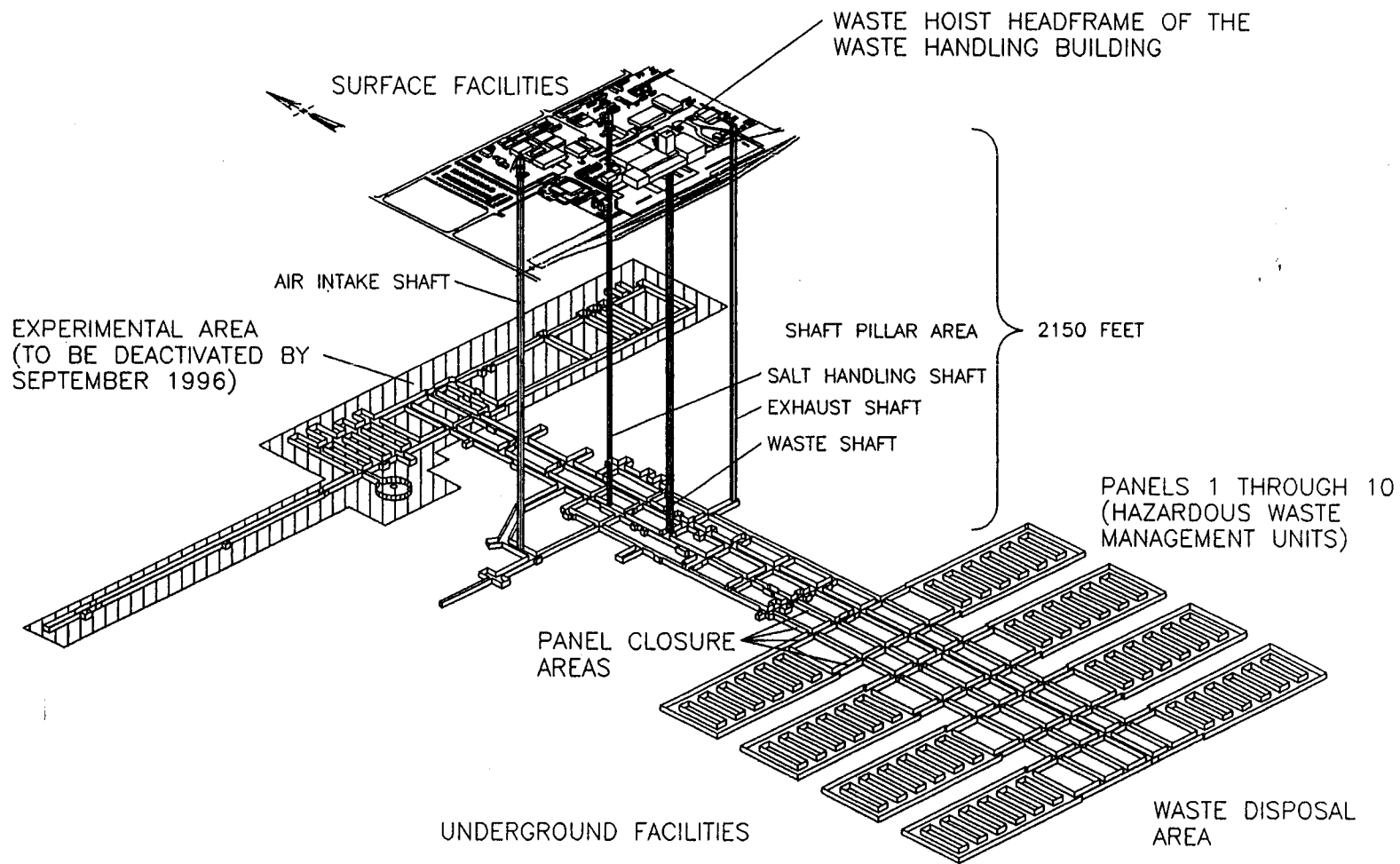


Figure B-4a
Waste Handling Building - Facility Pallet Temporary Storage Area

Figure B-5
Spatial View of the WIPP Structures



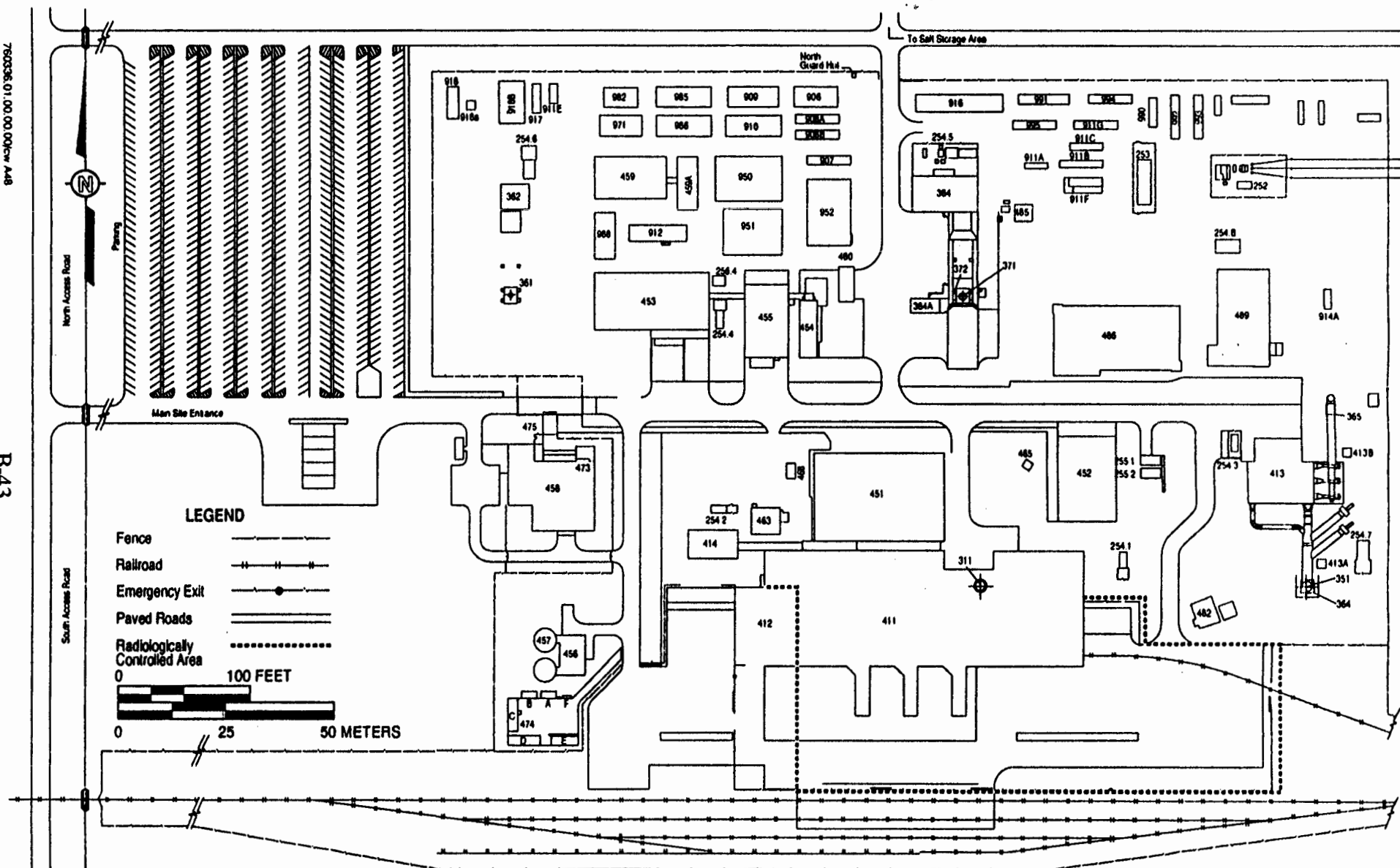


Figure B-6
WIPP Surface Structures

FACILITIES, USAGE AND STRUCTURE NUMBERS

| BLDG./ FAC. # | DESCRIPTION | BLDG./ FAC. # | DESCRIPTION |
|------------------|---------------------------------------|------------------|---|
| 252 | SPS UTILITY SUBSTATION | 474 | HAZARDOUS WASTE STORAGE FACILITY |
| 253 | 13.8 KV SWITCHGEAR 25P-SWG15/1 | 474A | HAZARDOUS WASTE STORAGE BUILDING |
| 254.1 | AREA SUBSTATION NO.1 25P-SW15.1 | 474B | HAZARDOUS WASTE STORAGE BUILDING |
| 254.2 | AREA SUBSTATION NO.2 25P-SW15.2 | 474C | OIL & GREASE STORAGE BUILDING |
| 254.3 | AREA SUBSTATION NO.3 25P-SW15.3 | 474D | GAS BOTTLE STORAGE BUILDING |
| 254.4 | AREA SUBSTATION NO.4 25P-SW15.4 | 474E | HAZARD MATERIAL STORAGE BUILDING |
| 254.5 | AREA SUBSTATION NO.5 25P-SW15.5 | 474F | WASTE OIL RETAINER |
| 254.6 | AREA SUBSTATION NO.6 25P-SW15.6 | 475 | GATEHOUSE |
| 254.7 | AREA SUBSTATION NO.7 25P-SW15.7 | 480 | VEHICLE FUEL STATION |
| 254.8 | AREA SUBSTATION NO.8 25P-SW15.8 | 482 | EXHAUST SHAFT HOIST EQUIP. WAREHOUSE |
| 255.1 | EMERGENCY GENERATOR #1 25-PE 503 | 485 | SULLAIR COMPRESSOR BUILDING |
| 255.2 | EMERGENCY GENERATOR #2 25-PE 504 | 486 | ENGINEERING BUILDING |
| 311 | WASTE SHAFT | 489 | TRAINING BUILDING |
| 351 | EXHAUST SHAFT | 816 | SANDIA TEST WELL (NOT IDENTIFIED) |
| 361 | AIR INTAKE SHAFT | 906 | UNDERGROUND OPERATIONS TRAILER |
| 362 | AIR INTAKE SHAFT/HOIST HOUSE | 907 | TRANS. & HAZ. MATERIAL HANDLING TRAILER |
| 363 | AIR INTAKE SHAFT/WINCH HOUSE | 908A | ENVIRONMENTAL MONITORING LAB TRAILER |
| 364 | EFFLUENT MONITORING INSTRUMENT SHED A | 908B | UNIVERSITY CONSORTIUM TRAILER |
| 365 | EFFLUENT MONITORING INSTRUMENT SHED B | 909 | PROJECT CONTROL TRAILER |
| 366 | AIR INTAKE SHAFT HEADFRAME | 910 | ENVIRONMENTAL MONITORING TRAILER |
| 371 | SALT HANDLING SHAFT | 911A | SITE LOCKSMITH TRAILER |
| 372 | SALT HANDLING SHAFT HEADFRAME | 911B | SANDIA M101 TRAILER |
| 384 | SALT HANDLING SHAFT HOISTHOUSE | 911C | SANDIA OFFICES TRAILER |
| 384A | SALT HOIST OPERATIONS | 911E | SANDIA TRAILER |
| 411 | WASTE HANDLING BUILDING | 911F | SANDIA B49 AND B49 ANNEX |
| 412 | TRUPACT MAINTENANCE BUILDING | 911G | SANDIA LABS TRAILER |
| 413 | EXHAUST SHAFT FILTER BUILDING | 912 | TRAINING TRAILER |
| 413A | MONITORING STATION A | 914A | TRAINING TRAILER |
| 413B | MONITORING STATION B | 915 | NEW MEXICO ENVIR. DEPT. TRAILER |
| 414 | WATER CHILLER FACILITY & BLDG | 916 | SANDIA OFFICES TRAILER |
| 451 | SUPPORT BUILDING | 917 | AIS MONITORING |
| 452 | SAFETY & EMERGENCY SERVICES FACILITY | 918 | VOC TRAILER |
| 453 | WAREHOUSE/SHOPS BUILDING | 918A | VOC AIR MONITORING STATION |
| 454 | VEHICLE SERVICE BUILDING | 918B | VOC LAB TRAILER |
| 455 | AUXILLIARY WAREHOUSE BUILDING | 950 | WORK CONTROL TRAILER |
| 456 | WATER PUMPHOUSE | 951 | PROCUREMENT / PURCHASING |
| 457N | WATER TANK 25-D-001A | 952 | TRAILER (7-PLEX) |
| 457S | WATER TANK 25-D-001B | 971 | HUMAN RESOURCES TRAILER |
| 458 | GUARD AND SECURITY BUILDING | 982 | MAINTENANCE TRAILER |
| 459 | CORE STORAGE BUILDING | 985 | QA TRAILER |
| 459A | SANDIA ANNEX | 986 | PUBLICATIONS & PROCEDURES TRAILER |
| 463 | COMPRESSOR BUILDING | 988 | TRAINING TRAILER |
| 465 | AUXILIARY AIR INTAKE | 991 | SANDIA OFFICES TRAILER |
| 468 | TELEPHONE HUT | 992 | SANDIA CALIBRATION LAB TRAILER |
| 473 | ARMORY BUILDING | 993 | SANDIA OFFICES TRAILER |
| | | 994 | SANDIA LAB TRAILER |
| | | 995 | SANDIA QA RECORDS TRAILER |

Legend to Figure B-6

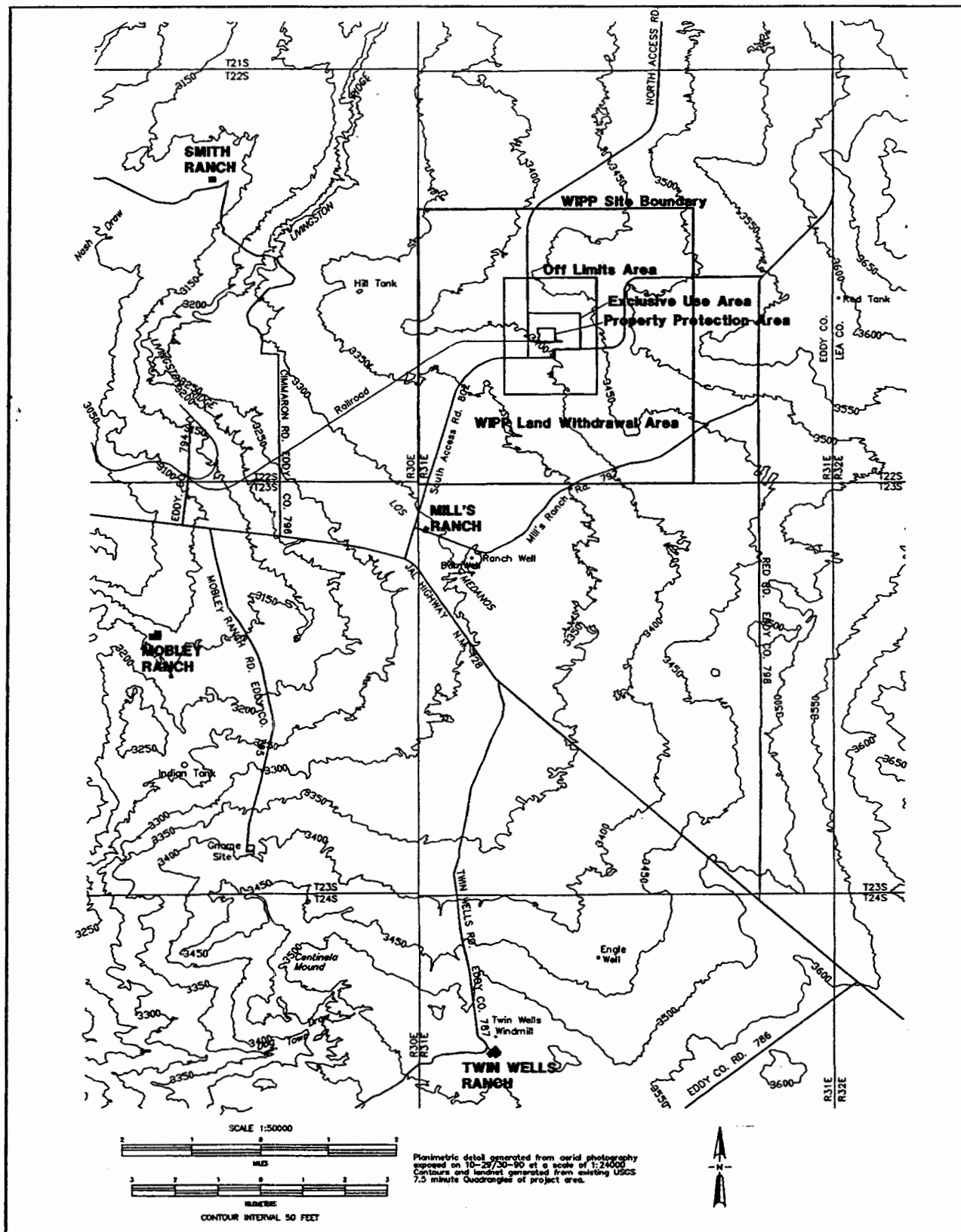


Figure B-7
Surface Map Showing Zones and Nearby Residences

Figure B-8
Underground Transport Routes

