Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221
October 19, 2001

Mr. Steve Zappe
Hazardous Waste Permits Program
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
2905 E. Rodeo Park Drive, Bldg. E
Santa Fe, New Mexico 87505

RE: Transmittal of Approved Waste Stream Profile Form for Rocky Flats Environmental Technology Site, Waste Stream Profile Form Number RF118.01

Dear Mr. Zappe:

The Department of Energy, Carlsbad Field Office has approved the Rocky Flats Environmental Technology Site, Waste Stream Profile Form for Waste Stream RF118.01. Enclosed is a copy of the approved form as required by Section B-4(b)(1) of the WIPP Hazardous Waste Facility Permit No. NM4890139088-TSDF.

If you have any questions on this matter, please contact me at (505) 234-7357 or (505) 361-0265.

Sincerely,

Kerry W. Watson
Assistant Manager
Office of National TRU Program

Enclosure

cc: w/o enclosure
C. Zvonar, CBFO
J. Kieling, NMED
C. Walker, TechLaw
J. Cotton, WTS
B. Kehrman, WTS
C. Riggs, CTAC

CBFO:NTP:KWW:VW:01-1761:UFC 5822

011016

WIPP WASTE STREAM PROFILE FORM

Waste Stream Profile Number: RF118.01

Generator site name: RFETS
Technical contact: Eric D'Amico
Generator site EPA ID: CO7890010526
Phone number: (303) 966-5362

Date of audit report approval by NMED: March 9, 2000 as amended February 7, 2001 and June 5, 2001

Title, version number, and date of documents used for WAC certification: Rocky Flats Environmental Technology Site TRU Waste Characterization Program Quality Assurance Project Plan, 95-QAPjP-0050, Revision 5, April 2001. Transuranic (TRU) Waste Management Manual, Revision 4, 1-MAN-008-WM-001, August 2000. WIPP Waste Acceptance Criteria, Revision 7, DOE/WIPP-069, November 1999.

Did your facility generate this waste? ☑ Yes ☐ No If no, provide the name and EPA ID of the original generator:

Waste Stream Information[1]

WIPP ID: RF MR0419 (RF-W040), RF MR0420 (RF-W040), RF MR0421 (RF-W040), RF MR0422 (RF-W076), RF MR0423 (RF-W076), RF MR0428 (RF-W040), RF MT0420 (RF-W040)

Summary Category Group: S3000 Waste Matrix Code Group: Solidified Inorganics (S3111 and S3119)[3]

Waste Stream Name: Incinerator Ash/TRM (S3111) and Process Residues/TRM (S3119)

Description from the WTWBIR: This waste is a fire particulate ash. It could also be chunky material from moisture. This waste form contains some ash, and it also is solid chunks and fine particulate material. Some liquid may be present.[3]

Defense TRU Waste: ☑ Yes ☐ No

Check one: ☑ CH ☐ RH Number of SWBs N/A Number of Drums 6,900 Number of Canisters N/A

Batch Data Report numbers supporting this waste stream characterization: See Table 7.

List applicable EPA Hazardous Waste Codes[2]: D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005 (determined by Acceptable Knowledge)

Applicable TRUCON Content Codes: RF 130A, RF 130B, RF 130BA, RF 130D, RF 130DF, RF 130E, RF 130F, RF 130G, RF 130GF, RF 130J, RF 130K, RF 130P, RF 130PA, RF 130PF, RF 130PAF

Acceptable Knowledge Information[1]

Required Program Information

- Map of site: Reference List, No. 3
- Facility mission description: Reference List, No. 3
- Description of operations that generate waste: Reference List, Nos. 1, 2, 3, 6
- Waste identification/categorization schemes: Reference List, Nos. 13, 14
- Types and quantities of waste generated: Reference List, Nos. 1, 2, 3, 6
- Correlation of waste streams generated from the same building and process, as appropriate: Reference List, Nos. 1, 2, 6
- Waste certification procedures: Reference List, No. 5

Required Waste Stream Information

- Area(s) and building(s) from which the waste stream was generated: Reference List, Nos. 1, 2, 6
- Waste stream volume and time period of generation: Reference List, Nos. 4, 6
- Waste generating process description for each building: Reference List, Nos. 1, 2, 6
- Process flow diagrams: Reference List, Nos. 1, 2
- Material inputs or other information identifying chemical/radionuclide content and physical waste form: Reference List, Nos. 1, 2, 3, 6
- Which Defense Activity generated the waste: (Check one) Reference List, No. 3

☑ Weapons activities including defense inertial confinement fusion
☐ Verification and control technology
☐ Defense nuclear waste and material by products management
☐ Defense nuclear waste and materials security and safeguards and security investigations
☐ Naval Reactors development
☐ Defense research and development
☐ Defense nuclear materials production

Reviewed For Classification/UCNI
By W. Schneelock
Date 20 SEP 01
Approved for Public Release

Supplemental Documentation: See the References section in the Acceptable Knowledge Summary (attached) for additional backup documentation associated with this waste stream.

- Process design documents: N/A
- Standard operating procedures: N/A
- Safety Analysis Reports: N/A
- Waste packaging logs: N/A
- Test plans/research project reports: N/A
- Site data bases: N/A
- Information from site personnel: N/A
- Standard industry documents: N/A
- Previous analytical data: N/A
- Material safety data sheets: N/A
- Sampling and analysis data from comparable/surrogate Waste: N/A
- Laboratory notebooks: N/A

Sampling and Analysis Information[1]
[*For the following, when applicable, enter procedure title(s), number(s) and date(s)*]

☑ Radiography: Reference List Nos. 25, 26
☑ Visual Examination: Reference List, Nos. 17, 18, 19, 20, 21, 22
☑ Headspace Gas Analysis
VOCs: Reference List, No. 7
Flammable: Reference List, No. 7
Other gases (specify): N/A
☑ Homogeneous Solids/Soils/Gravel Sample Analysis
Total metals: Reference List, Nos. 10, 11, 12
PCBs: N/A
VOCs: Reference List, No. 8
Nonhalogenated VOCs: Reference List, No. 8
Semi-VOCs: Reference List, No. 9
Other (specify): N/A

Waste Stream Profile Form certification:

I hereby certify that I have reviewed the information in this Waste Stream Profile Form, and it is complete and accurate to the best of my knowledge. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature of Site Project Manager | G. A. O'Leary, Manager TRU Programs, Printed Name and Title | 9/19/01, Date

NOTE (1) Use back of sheet or continuation sheets, if required.
(2) If radiography, visual examination, headspace gas analysis, and/or homogeneous solids/soils/gravel sample analysis were used to determine EPA Hazardous Waste Codes, attach Characterization Information Summary documenting this determination.
(3) The Waste Matrix Code for IDCs 422 and 423 have been changed to S3111 as this waste is an ash-like material from the incinerator. The information in the TWBIR is incorrect in that there is no liquid present in this waste stream.

REFERENCE LIST

1. Backlog Waste Reassessment Baseline Book, Waste Form 1, Incinerator Ash, Heel, Soot, Sludge, and Firebrick, May 2001.
2. Waste Stream and Residue Identification and Characterization (WSRIC), Revision 6, and archived versions.
3. RFETS TRU Waste Acceptable Knowledge Supplemental Information, RF/RMRS-97-018, Revision 9, June 2001.
4. Waste and Environmental Management System (WEMS) database.
5. Transuranic Waste Certification, PRO-X05-WC-4018, Revision 2, December 2000.
6. Acceptable Knowledge TRU/TRM Waste Stream Summaries, RMRS-WIPP-98-100, Revision 11, May 2001.
7. GC/MS Determination of Volatile Organics Waste Characterization, L-4111-V, March 2001.
8. GC/MS Determination of Volatile Organic Compounds (Solids, Liquids, and TCLP Extracts), L-4165- J, October 2000.
9. GC/MS Determination of Total SVOCs for WIPP, L-4215-D, May 2001.
10. Waste Analysis by Atomic Absorption Spectroscopy, L-4151-J, September 2000.
11. Mercury Analysis in Waste (Cold-Vapor Technique), L-4152- J, September 2000.
12. Trace Metals by ICP Spectrometry (Solids, Liquids, and TCLP Extracts), L-4153-H, September 2000.
13. Waste Characterization, Generation, and Packaging, 1-PRO-079-WGI-001, Revision 3, December 2000.
14. Waste Characterization Program Manual, 1-MAN-036-EWQA-Section 1.6.1, Revision 2, September 2000.
15. Interoffice Memorandum from Thomas R. Gatliffe to Eric L. D'Amico, Headspace Gas Analysis Data Evaluation Report For Waste Stream Profile RF118.01 (TRM Incinerator Ash) Lot 2, TRG-073-01, August 2001.
16. Interoffice Memorandum from Thomas R. Gatliffe to Eric L. D'Amico, Statistical Solid Analysis Data Evaluation Report For Profile Containers from Lots 1 Through 4 of Waste Stream RF118.01 [TRM Incinerator Ash], TRG-078-01, September 2001.
17. Visual Examination for Confirmation of RTR, 4-H80-776-ASRF-007, Revision 5, June 2001.
18. Ash Residue Repack, Building 707, PRO-X56-RS-0123, Revision 5, August 2000.
19. Residue Repack, Building 371, PRO-544-SALT REPACK-371, Revision 4, December 2000.
20. Cone and Quartering Method – Repack Solid Sampling and Analysis, RS-012-005, Revision 3, December 2000.
21. Grid Method - Repack Solid Sampling and Analysis, RS-012-004, Revision 3, December 2000.
22. Repack Sampling, Building 371, PRO-860-RS-0156, Revision 1, January 2001.
23. Interoffice Memorandum from Thomas R. Gatliffe to Eric L. D'Amico, Statistical Solid Analysis Data Control Chart Evaluation Report for Transuranic Mixed (TRM) Incinerator Ash Lot RF118.01-001/002/003/004 (Combined Lots 1 Through 4) of Waste Stream Profile RF118.01, TRG-074-01, September 2001.
24. Interoffice Memorandum from Scott Smith to Eric D'Amico, Tentatively Identified Compounds in TRM Incinerator Ash Waste (D004-D011, F001, F002, F005), SMS-002-2001, August 2001.
25. Real-Time Radiography Testing of Transuranic and Low-Level Waste, 4-W30-NDT-00664, Revision 4, February 2001.
26. Real-Time Radiography Testing of Transuranic and Low-Level Waste in Building 569, 4-I19-NDT-00569, Revision 4, February 2001.

Form A
Reconciliation with Data Quality Objectives

I certify by signature (below) that sufficient data have been collected to determine the following Program-required waste parameters:

WSPF # RF118.01

Item	Check Box[a]	Reconciliation Parameter
1	✓	Waste Matrix Code as reported in WEMS.
2	✓	Waste Material Parameter Weights for individual containers as reported in WEMS.
3	✓	The waste matrix code identified is consistent with the type of sampling and analysis used to characterize the waste.
4	✓	Container mass and activities of each radionuclide of concern as reported in WEMS.
5	✓	Each waste container of waste contains TRU radioactive waste.
6	✓	Mean concentrations, UCL_{90} for the mean concentrations, standard deviations, and the number of samples collected for each VOC in the headspace gas of waste containers in the waste stream/waste stream lot.
7	✓	Mean concentrations, UCL_{90} for the mean concentrations, standard deviations, and number of samples collected for VOCs in the waste stream/waste stream lot. Summary Categories S3000 and S4000.
8	✓	Mean concentrations, UCL_{90} for the mean concentrations, standard deviations, number of samples collected for SVOCs in the waste stream/waste stream lot. Summary Categories S3000 and S4000.
9	✓	Mean concentrations, UCL_{90} for the mean concentrations, standard deviations, and number of samples collected for metals in the waste stream/waste stream lot. Summary Categories S3000 and S4000.
10	✓	Sufficient number of samples was taken to meet statistical sampling requirements.
11	✓	Only validated data were used in the above calculations, as documented through the site data review and validation forms and process.
12	✓	Waste containers were selected randomly for sampling, as documented in site procedures.
13	✓	The potential flammability of TRU waste headspace gases.
14	✓	*Sufficient number of waste containers* was visually examined to determine with a reasonable level of certainty that the UCL_{90} for the miscertification rate is less than 14 percent.
15	✓	Whether the waste stream exhibits a toxicity characteristic (TC) under 40 CFR Part 261, Subpart C.
16	✓	*All TICs were appropriately identified and reported in accordance with the requirements of the* WIPP WAP prior to submittal of a waste stream profile form for a waste stream or waste stream lot.
17	✓	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WIPP WAP Sections B3-2 through B3-9 prior to submittal of a waste stream profile form for a waste stream or waste stream lot.
18	✓	The RTLs (i.e., PRQLs) for all analyses were met prior to submittal of a waste stream profile form for a waste stream or waste stream lot.
19	✓	Whether the waste stream can be classified as hazardous or non-hazardous at the 90-percent confidence limit.

[a] Check (✓) indicates that data or acceptable knowledge are sufficient to determine the waste parameters and that the waste parameters have been reported in the listed document or database. N/A indicates parameter does not apply to waste stream. NO indicates data are insufficient.

Signature of Site Project Manager

G. A. O'Leary
Printed Name

9/19/01
Date

Data Summary Report—Table 1: Solid Sampling Summary

WSPF # RF118.01

Determination of Number of Retrievably Stored Waste Containers to Sample (Solid Sampling)

Preliminary Estimates of Mean, Variance, and Coefficient of Variation:

Attach a table(s) that correlates container identification numbers to data packages if different from containers used for characterization.

Description of Source Data: Preliminary samples were collected and analyzed in compliance with all requirements (specified in the WIPP Waste Analysis Plan Section B2-2a) for being counted as part of the total number of calculated required samples. Sufficient preliminary samples were collected to demonstrate sampling sufficiency – i.e., collection of additional samples other than the preliminary samples was not required. See Reference List, No 16.

Samples Randomly Selected from Waste Stream (yes/no)? Yes.

Treatment of less-than-detectable measurements: This pertains only to data for analytes in which at least one detectable measurement was obtained. Raw data were evaluated using one half the method detection limit (MDL) for less-than-detectable observations. See Reference List, No. 16

Analytes that are listed spent solvents and therefore not included in the calculation to determine the number of containers to sample: Benzene, Carbon Disulfide, Carbon Tetrachloride, Chlorobenzene, 1,2-Dichlorobenzene, Isobutanol, Methyl Ethyl Ketone, Methylene Chloride, Pyridine, Tetrachloroethylene, Toluene, 1,1,1-Trichloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, Trichloroethylene, and Trichlorofluoromethane

Largest Calculated Sample Size selection and associated analyte: Pertains only to toxicity characteristic or listed waste analytes. Largest value is 10.41 for Barium.

Minimum number of containers to sample: 10 (based on preliminary sample size for evaluating the waste stream).

Attach preliminary estimates: See Reference List, No. 16. Preliminary estimates are identical to final results because sufficient preliminary samples were collected and analyzed in compliance with all requirements for being used as required samples.

Retrievably Stored Waste Sampling Results

Analytes that are listed spent solvents and therefore not included in the UCL_{90} estimate calculation to determine the toxicity characteristic: Benzene, Carbon Disulfide, Carbon Tetrachloride, Chlorobenzene, 1,2-Dichlorobenzene, Isobutanol, Methyl Ethyl Ketone, Methylene Chloride, Pyridine, Tetrachloroethylene, Toluene, 1,1,1-Trichloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, Trichloroethylene, and Trichlorofluoromethane

Largest Calculated Sample Size and associated analyte: Pertains only to toxicity characteristic or listed waste analytes. Largest value is 10.41 for Barium.

Comparison of largest calculated sample size with largest calculated sample size selected from preliminary estimate: 10.41 vs. 10.41 (for Barium)

Treatment of less-than-detectable measurements: This pertains only to data for analytes in which at least one detectable measurement was obtained. Raw data were evaluated using one half the method detection limit (MDL) for less-than-detectable observations. See Reference List, No. 16.

Transformations applied to data and justification: Transformations were not applied to data for UCL_{90} comparison to RTL values.

Drums overpacked for shipment/WWIS tracking (Yes/No)? No.
If yes, overpack container identification number:

Sampled drums included in waste stream lot reported here (Yes/No)? Yes.
If no, WSPF # including sampled drums:

Data Summary Report—Table 1: Solid Sampling Summary (continued)

Newly Generated Waste Sampling Results
Batch or continuous process? N/A[a]
Samples randomly selected from Waste Stream? (yes/no) N/A[a]
Sample locations (part of process): N/A[a]
Treatment of less-than-detectable measurements: N/A[a]
Transformations applied to data and justification: N/A[a]

NOTES:

[a] Control charting for this waste stream was determined not to be applicable and sampling and analysis was conducted using retrievably stored characterization strategy (see Reference No. 23).

Data Summary Report—Table 2: Headspace Gas Summary Data

WSPF # RF118.01

Sampling and Analysis Method (check one):

☐ 100% Sampling ☑ Reduced Sampling

2A

ANALYTE	# Samples[b]	Maximum (ppmv)	Mean[e] (ppmv)	SD[e] (ppmv)	UCL_{90}[e] (ppmv)	RTL[c] (ppmv)	EPA Code[a]
1,1-Dichloroethane						NA	
1,2-Dichloroethane						10	
1,1-Dichloroethylene						10	
cis-1,2-Dichloroethylene						NA	
1,1,2,2-Tetrachloroethane						10	
1,1,1-Trichloroethane						10	
1,1,2-Trichloro-1,2,2-Trifluoroethane						10	
Acetone	2	19	2.85	3.96	4.06	100	
Benzene	2	1.8	0.40	0.35	0.51	10	
Bromoform						NA	
Butanol						100	
Carbon disulfide						10	
Carbon tetrachloride						10	
Chlorobenzene						10	
Chloroform						10	
Ethyl benzene						10	
Ethyl ether						100	
Methanol	4	33	9.21	7.18	11.40	100	
Methyl ethyl ketone						100	
Methyl isobutyl ketone						100	
Methylene chloride						10	
o-Xylene						10	
m,p-Xylene						10	
Tetrachloroethylene						10	
Toluene	16	14	3.41	3.50	4.48	72.02[d]	
Trichloroethylene						10	

PRQL is 10

from tape

Data Summary Report—Table 2: Headspace Gas Summary Data (continued)

WSPF # RF118.01

2B

TENTATIVELY IDENTIFIED COMPOUND	Maximum Observed Estimated Concentrations (ppmv)[b]	# Samples Containing TIC[b]
No TICs included in the 40 CFR 261 Appendix VIII list were detected in at least 25 percent of the headspace gas samples for the waste stream lot.		

Did the data verify the acceptable knowledge? ☑ Yes ☐ No

Data as reported in Data Summary Report – Table 2 confirm acceptable knowledge in that no additional EPA codes, other than those assigned by acceptable knowledge, are applicable.

If not, describe the basis for assigning the EPA Hazardous Waste Codes:

NOTES:

[a] No entry indicates no associated EPA Code assigned to the waste stream based on headspace analysis.
[b] Analysis was performed for all analytes identified. No entry indicates no detectable measurements available for statistics. Samples were not composited.
[c] RTLs for headspace gas analysis results correspond to the analyte PRQL for analytes that are hazardous waste constituents. "NA" means the analyte is not a hazardous waste constituent and so has no associated regulatory threshold.
[d] Limit used for evaluating EPA Hazardous Waste Code for toluene (Reference No. 3).
[e] Statistics based on using ½ MDL for less-than-detectable observations without data transformation.

A/C Supplied information ?

Data Summary Report—Table 3: Metals Summary Data

WSPF # RF118.01

Sampling and Analysis Method/Units (check one):

☑ Totals (units are in mg/kg) ☐ TCLP (units are in mg/l)

ANALYTE	# Samples[c]	Mean[d] (mg/kg)	SD[d] (mg/kg)	UCL_{90}[d] (mg/kg)	RTL[b] (mg/kg)	EPA Code[a]
Antimony	26	371.3	597.2	525.5	NA	
Arsenic	3	10.61	22.57	16.44	100	
Barium	26	1800	742	1991.5	2000	D005[f]
Beryllium[e]	25	353.4	470.96	474.95	NA	
Cadmium	26	77.33	120.8	108.5	20	D006
Chromium	26	768.46	415.3	875.7	100	D007
Lead	26	15155	32411	23522	100	D008
Mercury	7	1.3199	6.0576	2.884	4	
Nickel	26	2566	2537.8	3221	NA	
Selenium	2	1.527	4.456	2.677	20	
Silver	26	54.85	84.01	76.54	100	
Thallium	2	6.075	2.713	6.775	NA	
Vanadium	25	46.27	56.55	60.87	NA	
Zinc	26	1715	1187.5	2022	NA	

Did the data verify the acceptable knowledge? ☑ Yes ☐ No

Data as reported in Data Summary Report – Table 3 confirm acceptable knowledge in that no additional EPA codes, other than those assigned by acceptable knowledge, are applicable.

If not, describe the basis for assigning the EPA Hazardous Waste Codes.

NOTES:

[a] No entry indicates no associated EPA Code assigned to the waste stream.

[b] "NA" means the analyte is not a hazardous waste constituent and so has no applicable regulatory threshold.

[c] Analysis was performed for all analytes identified. No entry indicates no detectable measurements available for statistics.

[d] Statistics calculated based on raw data using ½ the MDL values for all less-than-detectable observations without data transformation.

[e] The EPA hazardous waste number P015, beryllium powder, is not applicable to this waste stream. The applicable regulations controlling the identification of U and P listed hazardous wastes are given in 40 CFR 261.33, Discarded Commercial Chemical Products, Off-Specification Species, Container Residues, and Spill Residues Thereof. Within this regulation, it states that "The phrase 'commercial chemical product or manufacturing chemical intermediate having the generic name listed in ...' refers to a chemical which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraph (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraph (e) or (f), such waste will be listed in either Sec. 261.31 or Sec. 261.32 or will be identified as a hazardous waste by the characteristics set forth in subpart C of this part."

Incinerator ash is a manufacturing process waste that is a characteristic and an F-listed hazardous wasted listed in Section 261.31. Therefore, the incinerator ash waste is not rendered a P015 listed waste by the presence of trace quantities of beryllium.

Beryllium parts were used in the manufacture/assembly of weapons components, and residual beryllium contamination of plutonium parts may have occurred. Combustibles fed to the incinerator may have been contaminated with beryllium and therefore, trace quantities of beryllium is present in the ash waste stream. Beryllium contamination may also have occurred for some drums during the visual examination process to confirm radiography, not the original generation of this waste. In both of these instances, the beryllium is not unused commercial chemical product, and therefore is not a P015-listed waste.

[f] The UCL90 value is equivalent to the RTL when rounded to two significant figures. Therefore, the D005 code assigned by acceptable knowledge is confirmed by the sampling and analysis results.

Data Summary Report—Table 4: Total VOC Summary Data

WSPF # RF118.01

4A

ANALYTE	# Samples[b]	Mean[d] (mg/kg)	SD[d] (mg/kg)	UCL_{90}[d] (mg/kg)	RTL[c] (mg/kg)	EPA Code[a]
1,1-Dichloroethylene					14	
1,2-Dichloroethane					10	
1,2-Dichlorobenzene					10	
1,4-Dichlorobenzene					150	
1,1,1-Trichloroethane					10	
1,1,2-Trichloro-1,2,2-Trifluoroethane					10	
1,1,2-Trichloroethane					10	
1,1,2,2-Tetrachloroethane					NA	
Acetone	2	5.62	2.25	6.20	100	
Benzene	3	0.60	0.29	0.67	10	
Bromoform					NA	
Butanol					100	
Carbon disulfide					10	
Carbon tetrachloride					10	
Chloroform					120	
Chlorobenzene					2000	
Chloromethane[e]					NA	
Ethyl benzene					10	
Ethyl ether					100	
Isobutanol					100	
Methanol	2	5.69	2.46	6.33	100	
o-Xylene					10	
m,p-Xylene					10	
Methyl ethyl ketone					100	
Methylene chloride					10	
Pyridine					100	
Tetrachloroethylene					10	
Toluene	7	0.82	0.60	0.97	10	
Trichloroethylene					10	
Trichlorofluoromethane					10	
Vinyl chloride					4	

Data Summary Report—Table 4: Total VOC Summary Data (continued)

WSPF # RF118.01

4B

TENTATIVELY IDENTIFIED COMPOUND	Maximum Observed Estimated Concentrations (mg/kg)[b]	# Samples Containing TIC[b]
Chloromethane, 74-87-3[e]	9.3	17

Did the data verify acceptable knowledge? ☑ Yes ☐ No

Data as reported in Data Summary Report – Table 4 confirm acceptable knowledge in that no additional EPA codes, other than those assigned by acceptable knowledge, are applicable.

If no, describe the basis for assigning EPA Hazardous Waste Codes.

NOTES:

[a] No entry indicates no associated EPA Code assigned to the waste stream.
[b] Analysis was performed for all analytes identified. No entry indicates no detectable measurements available for statistics.
[c] RTLs correspond to the analyte PRQL for analytes that are F-listed hazardous waste constituents or to the applicable total RTL value as calculated from the TC RTL. "NA" means the analyte is not an applicable hazardous waste constituent and so has no associated regulatory threshold.
[d] Statistics calculated based on raw data using ½ the MDL values for all less-than-detectable observations without data transformation.
[e] The TIC was determined not to be a listed hazardous waste based on a comparison of the TIC identification with acceptable knowledge (see Reference No. 24). Compound was detected as a TIC in 17 of 20 samples. The compound was analyzed as a target analyte in the remaining 29 samples because it was added to the generic target analyte list when it was detected as a TIC in greater than 25% of samples from the TRU Pyrochemical Salt waste stream (RF009.01).

Data Summary Report—Table 5: Total SVOC Summary Data

WSPF # RF118.01

5A

ANALYTE	# Samples[b]	Mean[d] (mg/kg)	SD[d] (mg/kg)	UCL_{90}[d] (mg/kg)	RTL[c] (mg/kg)	EPA Codes[a]
1,2-Dichlorobenzene					10	
1,4-Dichlorobenzene					150	
2,4-Dinitrophenol					NA	
2,4-Dinitrotoluene					2.6	
Cresols					40	
Hexachlorobenzene	1	0.159	0.0451	0.1705	2.6	
Hexachloroethane					60	
Nitrobenzene					40	
Pentachlorophenol					2000	
Pyridine					100	

Data Summary Report—Table 5: Total SVOC Summary Data (continued)

WSPF # RF118.01
5B

TENTATIVELY IDENTIFIED COMPOUND	Maximum Observed Estimated Concentrations (mg/kg)[b]	# Samples Containing TIC[b]
Acetophenone, 98-86-2[e]	6.2	22

Did the data verify acceptable knowledge? ☑ Yes ☐ No

Data as reported in Data Summary Report – Table 5 confirm acceptable knowledge in that no additional EPA codes, other than those assigned by acceptable knowledge, are applicable.

If no, describe the basis for assigning EPA Hazardous Waste Codes.

NOTES:

[a] No entry indicates no associated EPA Code assigned to the waste stream.
[b] Analysis was performed for all analytes identified. No entry indicates no detectable measurements available for statistics.
[c] RTLs correspond to the analyte PRQL for analytes that are F-listed hazardous waste constituents or to the applicable total RTL value as calculated from the TC RTL. "NA" means the analyte is not an applicable hazardous waste constituent and so has no associated regulatory threshold.
[d] Statistics calculated based on raw data using ½ the MDL values for all less-than-detectable observations without data transformations.
[e] The TIC was determined not to be a listed hazardous waste based on comparison of the TIC identification to acceptable knowledge (see Reference No. 24).

Data Summary Report—Table 6: Exclusion of Prohibited Items

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The absence of prohibited items is documented through acceptable knowledge. Radiography or visual examination is performed on each container in this waste stream to verify the absence of the following prohibited items:

- Liquids
- Non-radionuclide pyrophoric materials
- Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes
- Explosives or compressed gases
- PCBs in concentrations greater than or equal to 50 ppm
- Waste exhibiting the characteristics of ignitability, corrosivity or reactivity

Data Summary Report—Table 7: Correlation of Container Identification to Batch Data Reports

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Package No.[c]	Inner Can No.	Radioassay Data Package	Solid Sample Batch No.[a]	Metals Data Package[a]	VOC Data Package[a]	SVOC Data Package[a]	Headspace Sample Batch No.[b]	Headspace VOC Data Package[b]	VV Data Package
DA6304	X18449	707SG5-DP-012200					01W0207	HVOC-DP-00533	AR-DP-707E-00133
DA9626	X19802	707SG5-DP-042300					01W0207	HVOC-DP-00533	AR-DP-707E-00202
DA9948	X19954	707SG5-DP-050700					01W0207	HVOC-DP-00533	AR-DP-707E-00211
DB0254	X19939	707SG5-DP-050800					01W0207	HVOC-DP-00533	AR-DP-707E-00215
DB2255	X21124	707SG5-DP-061400					01W0207	HVOC-DP-00533	AR-DP-707E-00518
DB3085	X21369	707SG4-DP-072600	AR-SB-0501	MTLS-DP-00003	VOCS-DP-00010	SVOA-DP-00013			AR-DP-707E-00539
DB3375	X22728	707SG4-DP-081400					01W0207	HVOC-DP-00533	AR-DP-707E-00549
DB5578	X23766	707SG5-DP-092700A	AR-SB-0504	MTLS-DP-00006	VOCS-DP-00014	SVOA-DP-00017			AR-DP-707E-00612
DB5581	X23763	707SG4-DP-092700A	AR-SB-0504	MTLS-DP-00006	VOCS-DP-00014	SVOA-DP-00017			AR-DP-707E-00612
DB5710	X25341	707SG4-DP-100600					01W0207	HVOC-DP-00533	AR-DP-707E-00618
DB6294	X20589	707SG5-DP-082300	AR-SB-0502	MTLS-DP-00004	VOCS-DP-00012	SVOA-DP-00015			AR-DP-707E-00626
DB6363	X24509	707SG6-DP-101300	AR-SB-0505	MTLS-DP-00007	VOCS-DP-00015	SVOA-DP-00017			AR-DP-707E-00631
DB6366	X24483	707SG6-DP-101300	AR-SB-0505	MTLS-DP-00007	VOCS-DP-00015	SVOA-DP-00017			AR-DP-707E-00631
DB6427	X24472	707SG6-DP-101300	AR-SB-0505	MTLS-DP-00007	VOCS-DP-00015	SVOA-DP-00017			AR-DP-707E-00636
DB6450	X25319	707SG5-DP-100400					01W0207	HVOC-DP-00533	AR-DP-707E-00632
DB6588	X25424	707SG5-DP-101300					01W0207	HVOC-DP-00533	AR-DP-707E-00641
DB6642	X25185	707SG5-DP-102200	AR-SB-0506	MTLS-DP-00008	VOCS-DP-00017	SVOA-DP-00019			AR-DP-707E-00640
DB6643	X23523	707SG5-DP-102200	AR-SB-0506	MTLS-DP-00008	VOCS-DP-00017	SVOA-DP-00019			AR-DP-707E-00642
DB6646	X22935	707SG4-DP-102200	AR-SB-0506	MTLS-DP-00008	VOCS-DP-00017	SVOA-DP-00019			AR-DP-707E-00642
DB6693	X20719	707SG5-DP-101000	AR-SB-0502	MTLS-DP-00004	VOCS-DP-00012	SVOA-DP-00015			AR-DP-707E-00647
DB6695	X21300	707SG4-DP-071800	AR-SB-0502	MTLS-DP-00004	VOCS-DP-00012	SVOA-DP-00015			AR-DP-707E-00647
DB6733	X24631	707SG4-DP-102300	AR-SB-0505	MTLS-DP-00007	VOCS-DP-00015	SVOA-DP-00017			AR-DP-707E-00647
DB6750	X24661	707SG5-DP-102300	AR-SB-0506	MTLS-DP-00008	VOCS-DP-00017	SVOA-DP-00019			AR-DP-707E-00648
DB6788	X25586	707SG6-DP-101100					01W0207	HVOC-DP-00534	AR-DP-707E-00648
DB6792	X25414	707SG5-DP-101600					01W0207	HVOC-DP-00534	AR-DP-707E-00649
DB6828	X22943	707SG5-DP-103100A	AR-SB-0506	MTLS-DP-00008	VOCS-DP-00017	SVOA-DP-00019			AR-DP-707E-00655
DB6841	X24699	707SG5-DP-102300	AR-SB-0506	MTLS-DP-00008	VOCS-DP-00017	SVOA-DP-00019			AR-DP-707E-00651
DB6978	X25205	707SG5-DP-100400					01W0207	HVOC-DP-00533	AR-DP-707E-00652
DB6989	X25867	707SG5-DP-110100					01W0207	HVOC-DP-00533	AR-DP-707E-00661

Data Summary Report—Table 7: Correlation of Container Identification to Batch Data Reports (continued)

Package No.[c]	Inner Can No.	Radioassay Data Package	Solid Sample Batch No.[a]	Metals Data Package[a]	VOC Data Package[a]	SVOC Data Package[a]	Headspace Sample Batch No.[b]	Headspace VOC Data Package[b]	VV Data Package
DB7051	X25476	707SG5-DP-110100	AR-SB-0507	MTLS-DP-00009	VOCS-DP-00018	SVOA-DP-00024			AR-DP-707E-00657
DB7093	X25636	707SG4-DP-110800	AR-SB-0507	MTLS-DP-00009	VOCS-DP-00018	SVOA-DP-00024	01W0207	HVOC-DP-00534	AR-DP-707E-00663
DB7095	X25299	707SG4-DP-110100	AR-SB-0507	MTLS-DP-00009	VOCS-DP-00018	SVOA-DP-00019			AR-DP-707E-00661
DB7201	X25814	707SG4-DP-110100	AR-SB-0507	MTLS-DP-00009	VOCS-DP-00018	SVOA-DP-00024			AR-DP-707E-00665
DB7222	X25958	707SG6-DP-111100					01W0207	HVOC-DP-00533	AR-DP-707E-00679
DB7226	X25621	707SG5-DP-110700	AR-SB-0507	MTLS-DP-00009	VOCS-DP-00018	SVOA-DP-00024			AR-DP-707E-00666
DB7232	X25876	707SG5-DP-110600					01W0207	HVOC-DP-00533	AR-DP-707E-00669
DB7238	X22740	707SG5-DP-102400	AR-SB-0506	MTLS-DP-00008	VOCS-DP-00017	SVOA-DP-00019			AR-DP-707E-00666
DB7249	X25259	707SG4-DP-110100	AR-SB-0507	MTLS-DP-00009	VOCS-DP-00018	SVOA-DP-00024			AR-DP-707E-00667
DB7296	X24648	707SG4-DP-102600	AR-SB-0505	MTLS-DP-00007	VOCS-DP-00015	SVOA-DP-00017			AR-DP-707E-00667
DB7693	X25360	CALG-DP-01400	AR-SB-0507	MTLS-DP-00009	VOCS-DP-00018	SVOA-DP-00019			AR-DP-707E-00691
DB8032	X25907	707SG6-DP-110800					01W0207	HVOC-DP-00533	AR-DP-707E-00697
DB8247	X26696	707SG4-DP-112900					01W0207	HVOC-DP-00533	AR-DP-707E-00696
DB8330	X23667	707SG5-DP-090300					01W0207	HVOC-DP-00533	AR-DP-707E-00700
DB8331	X24482	707SG6-DP-101300	AR-SB-0505	MTLS-DP-00007	VOCS-DP-00015	SVOA-DP-00017			AR-DP-707E-00700

NOTES:

[a] No entry indicates container was not selected or used for solid sampling.

[b] No entry indicates container was not selected for reduced headspace gas sampling.

[c] Radiography was not performed on any of the containers identified here. Instead, the waste contents for these containers were visually examined (using the VE technique) prior to or at the time of packaging/repackaging.

Acceptable Knowledge Summary

WSPF # RF118.01

RMRS-WIPP-98-100, Acceptable Knowledge TRU/TRM Waste Stream Summaries, Section 7.3, TRM Incinerator Ash (D004 – D011, F001, F002, F005) (attached).

7.3 TRM Incinerator Ash (D004 – D011, F001, F002, F005)

Profile No. RF118.01

Acceptable Knowledge Waste Stream Summary

Waste Stream Name: TRM Incinerator Ash (D004 – D011, F001, F002, F005)

Generation Buildings: Buildings 371, 707, and 771 [5,6,7,10,11]

Waste Stream Volume (Current): 6,357 55-gallon drums [6,9]

Generation Dates (Current): August 1989 – August 2001 [6,9]

Waste Stream Volume (Projected): 543 55-gallon drums[8]

Generation Dates (Projected): August 2001 – November 2001[8]

TRUCON Content Codes: RF 130A, RF 130B, RF 130BA, RF 130D, RF 130DF, RF130E, RF 130F, RF 130G, RF 130GF, RF 130J, RF 130K, RF 130P, RF 130PA, RF 130PF, RF 130PAF [1]

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7.3.1 Transuranic Waste Baseline Inventory Report Information [2]

WIPP Identification Numbers: RF-MR0419, RF-MR0420, RF-MT0420, RF-MR0421, RF-MR0422, RF-MR0423, RF-MR0428

Summary Category Group: S3000

Waste Matrix Code Group: Solidified Inorganics

Waste Matrix Code: S3111 (IDCs 419, 420, 421 and 428) and S3119 (IDCs 422 and 423)

Waste Stream Name: Incinerator Ash/TRM (S3111) and Process Residues/TRM (S3119)

Description from the TWBIR: This waste stream is a fire particulate ash. It could also be chunky material from moisture. This waste form contains some ash, and it also is solid chunks and fine particulate material. Some liquid may be present.

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Note: The Waste Matrix Code for IDCs 422 and 423 have been changed to S3111 as this waste is an ash-like material from the incinerator.[3] The information in the TWBIR is incorrect, as current AK information does not support liquids being present in this waste.[5]

7.3.2 Waste Stream Description

Incinerator ash consists of unpulverized incinerator ash (IDC 419), pulverized incinerator ash (IDC 420), blended incinerator ash (IDC 420P), soot (IDC 422), and soot heel (IDC 423). TRM incinerator ash materials were generated by similar plutonium recovery processes and are similar in material, physical form, and hazardous

constituents, and therefore are considered a single waste stream. Table 7-8 presents the waste matrix codes and waste material parameters for incinerator ash.[3]

Table 7-8, Incinerator Ash Waste Description

IDC	IDC Description	Waste Matrix Code	Waste Material Parameters	Weight % (Average)
0419	Unpulverized Incinerator Ash	S3111, Ash	Other Inorganic Materials	100%
0420	Pulverized Incinerator Ash	S3111, Ash	Other Inorganic Materials	100%
420P	Blended Incinerator Ash	S3111, Ash	Other Inorganic Materials	100%
0422	Soot	S3111, Ash	Other Inorganic Materials	100%
0423	Soot Heel	S3111, Ash	Other Inorganic Materials	100%

IDC 419, Unpulverized Incinerator Ash: Unpulverized ash consists of a mixture of coarse, granular, fine, and very fine particulates. The ash contains miscellaneous tramp metal, bits of unburned feed material, and carbon from the incomplete oxidation of feed material. The coarse materials consist of fused ash, clinkers, or unburned materials that fell through the stationary grate of the incinerator.[5]

IDC 420, Pulverized Incinerator Ash: Pulverized ash consists of a mixture of coarse, granular, fine, and very fine particulates that have been ground by a ball mill. The ash contains miscellaneous tramp metal, bits of unburned feed material, and carbon from the incomplete oxidation of feed material.[5]

IDC 420P, Blended Incinerator Ash: Blended incinerator ash consists in all or part of the following IDCs: pulverized incinerator ash (IDC 420), ash heel (IDC 421), soot (IDC 422), , and ash selected for MMEC (IDC 428). These IDCs are blended together to adjust plutonium content and container fill height. When low plutonium content feedstock for blending is unavailable, a surrogate material may be used. A "P" may be appended to this IDC to indicate the waste material has been blended and repackaged. The "P" is not considered part of the waste shipping IDC.[7,11]

IDC 422, Soot: Soot consists of fine and very fine particulate fly ash that was removed from the incinerator off-gas treatment system. The soot generally contained a higher concentration of carbon and fine particulate oxidation of some feed materials.[5]

IDC 423, Soot Heel: Soot heel is the material remaining after acid dissolution, filtering, and drying of soot (IDC 422).[5]

7.3.3 Areas of Operation

Incinerator ash is generated from the following defense operations:[3]

- Plutonium Recovery
- Residue Repackaging

7.3.4 Generation Processes

The residue recovery incinerator in Building 771, and the low-specific activity (LSA) and high-specific activity (HSA) incinerators in Building 371 originally generated incinerator ash (IDCs 419, 420, and 428) and soot (IDC 422). The Building 371 LSA and HSA incinerators were developed as volume reduction incinerators. However, design concerns were identified during startup tests of these units, and they never became operational. The Building 771 residue recovery incinerator was used to volume reduce combustible waste prior to plutonium recovery. Materials incinerated included combustibles, plastics and filter waste. The ash generated from the incineration process was removed from the firebox and placed into metal containers for cooling and processing. The hot, acidic exhaust gas from the incinerator was piped through air to air heat exchangers and quenched and neutralized in a caustic solution spray chamber. The caustic solution was pumped through a gas-liquid separator, and the liquid-free gas piped through two filter plenums before being discharged to the outside atmosphere via the building HVAC system. Soot was generated as an intermediate product during routine filter change operation of the incinerator plenum. See Backlog Waste Reassessment Baseline Book, Waste Form 1, Figure 2.1 for a process flow diagram showing incinerator ash generation. [5,18]

The dissolution process in Building 771 recovers plutonium from processing residues. Feed materials to this process include incinerator ash (IDCs 419 and 420) and soot (IDC 422). These materials are placed in a dissolution pot with heated nitric acid and aluminum nitrate. The solution (plutonium nitrate) is pulled by vacuum through an R-6 filter to remove undissolved solids. The undissolved solids, or ash heel (IDC 421) and soot heel (IDC 423), are dried on a hot plate and placed in 4-liter, wide-mouth, polyethylene bottles for removal from the glovebox. See Backlog Waste Reassessment Baseline Book, Waste Form 1, Figure 2.3 for a process flow diagram showing ash and soot heel generation.[5]

Incinerator ash, soot, ash heel, and soot heel are blended in Buildings 371 and 707 to meet residue safe-storage criteria and WAC for the WIPP. The drum contents are transferred to the glovebox system, sized reduced, and homogenized (if required). The residue is conveyed to the bagout glovebox, bagged out, then placed into a second convenience container for transport and nondestructive assay. After assay, the convenience container is packed into a "pipe" component and drum, then sent to storage pending transfer to WIPP. Unpulverized incinerator ash (IDC 419) and soot heel (IDC 423) are repackaged separately, and a portion of the soot (IDC 422) may also be repackaged separately. Pulverized incinerator ash, incinerator soot, and ash heel, and soot heel (IDCs 420, 421, 422, and 428) are generated as blended incinerator ash (IDC 420P). Some containers of pulverized incinerator ash (IDC 420) are also

repackaged in Building 771. Process flow diagrams for ash residue stabilization/repack are provided in the WSRIC Books, 371-28 Figure 28.1, 707-42 Figure 42.1, and 771-63 Figure 63.1.[7,10,11]

The operating temperature of the incinerator was maintained at 800°C, which would drive off any organic compounds of concern from the ash for headspace gas analysis. The exhaust gas from the incinerator was piped through air to air heat exchangers, quenched, and neutralized in a caustic solution spray chamber. The caustic solution was then pumped through a gas-liquid separator. Therefore, soot will not contain any organic compounds of concern for headspace gas analysis. Subsequent dissolution and repackaging operations did not introduce VOCs into the ash or soot. Therefore, the incinerator ash waste stream is a candidate for reduced headspace gas sampling as waste from a high-temperature thermal process. [18]

7.3.5 RCRA Characterization

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This waste stream is characterized as a mixed waste. Table 7-9 presents the chemical constituent codes (CCCs) and EPA Hazardous Waste Numbers associated with the BWR Subpopulations and WSRIC Waste Streams assigned to incinerator ash waste containers. Supporting characterization information is provided in the *BWR Baseline Book* and *WSRIC Building Book.*[5,7,10,11]

Table 7-9, Incinerator Ash Waste RCRA Characterization

IDC	BWR Subpopulation	WSRIC Waste Stream	RCRA CCCs	Non-RCRA CCCs	EPA Hazardous Waste Numbers
0419		371 - 28 - 19	Z5	00	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005
0419		707 - 42 - 24	Z5	00	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005
0420		771 - 63 - 18	Z5	00	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005
0420	1F		Z5	00	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005
420P		707 - 42 - 26	Z5	00	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005
420P		371 - 28 - 21	Z5	00	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005
0422		371 - 28 - 25	Z5	00	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005
0422		707 - 42 - 30	Z5	00	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005
0423		371 - 28 - 26	Z5	00	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005
0423		707 - 42 - 31	Z5	00	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005

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The EPA hazardous waste numbers assigned to the incinerator ash waste stream are based on the characterization of incinerator feed materials which included combustible, plastic, or Ful-Flo filter residues (i.e., those with recoverable quantities of plutonium). A review of the BWR Baseline Book identified EPA hazardous waste numbers assigned to combustibles, plastics, and Ful-Flo filters

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generated during the time the incinerator was operational. From this review, it was determined that all of the toxicity characteristic metals, several toxicity characteristic organics, and F-listed solvents may have contaminated the incinerator feed materials. EPA hazardous waste numbers F001, F002, and F005 are applied due to the derived-from rule. EPA hazardous waste numbers D004 – D011 are applied because these metals would be concentrated during incineration and may be present above the regulatory level. However, the toxicity characteristic organic EPA hazardous waste numbers are not applied because these compounds were volatilized and driven off in the incineration process. Therefore, these compounds would not be present above regulatory levels.(5) This was confirmed through solid sampling/analysis as described below.

Incinerator ash materials were previously characterized as F003.(2,5) This characterization was based on the possibility that combustibles, plastics, and Ful-Flo filter residues being fed to the incinerator may have been assigned F003. However, based on current Site guidance, the waste is not ignitable and should not be characterized as F003 hazardous waste onsite. Because this waste must comply with the WIPP Hazardous Waste Permit Waste Analysis Plan, further research was conducted to determine if the ash meets the definition of F003 as defined in 40 CFR 261.31. A review of historical documentation was performed to determine the source of F003-listed materials that fed the incinerator. This review identified processes that used F003-listed solvents but were not in operation until after the incinerator ceased operations. The residues generated by these processes could therefore not have been feed to the incinerator. There were processes which did use F003-listed solvents during the time period of incinerator operations. However, these residues did not meet the definition of an F003-listed waste as defined in 40 CFR 261.31 because they did not contain spent solvent mixtures/blends containing, before use, one or more F003-listed solvents and a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, or F005. Because the F003 does not apply to the feed materials, it does not apply to the ash derived from the incineration process.(5,24)

Visual examination of waste contents at the time of packaging and/or RTR is used to verify that the waste stream does not contain free liquid, explosives, non- radionuclide pyrophoric materials, compressed gasses, or reactive waste. Therefore, this waste stream does not exhibit the characteristics of ignitability (D001), corrosivity (D002), or reactivity (D003).

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Beryllium parts were used in the manufacture/assembly of weapons components, and residual beryllium contamination of plutonium parts may have occurred. Combustibles fed to the incinerator may have been contaminated with beryllium and therefore, trace quantities of beryllium is present in the ash waste stream. Beryllium contamination may also have occurred for some drums during the visual examination process to confirm radiography, not the original generation of this waste. In both of these instances, the beryllium is not unused commercial chemical product, and ~~therefore~~ is not a P015-listed waste.(12, 13, 14, 15, 16, 17,19)

Confirmatory solid samples of IDC 420P (this IDC represents over 99 percent of the total inventory) that were analyzed for total metal, VOC, and ~~SVOC constituents indicate that the incinerator~~ ash waste stream exhibits the characteristic of toxicity for barium, cadmium, chromium, and lead because the UCL_{90} values for these metals are equal to or greater than the corresponding regulatory threshold limit (RTL) values. The UCL_{90} values were calculated using the un-transformed, raw data in which one-half the method detection limit (MDL) was utilized for all less-than detectable observations. Using this method, the UCL_{90} values for arsenic, mercury, selenium, and silver indicate that the waste may not exhibit the characteristic of toxicity for these metals.(19,20) However, EPA hazardous waste numbers for these constituents will conservatively be retained for this waste stream.(21)

20. Kaiser-Hill 2001. Interoffice Memorandum from E. L. D'Amico to Steve Schafer. Waste Reassessment Evaluation Statistical Solid Analysis Data Evaluation Report for Solid Samples Used to Prepare Waste Stream Profile Form RF118.01 (TRM Incinerator Ash) – ELD-071-01. September 17.

21. WASTREN 2001. Interoffice Memorandum from Michael J. Papp to Eric L. D'Amico. Evaluation of Statistical Analysis for Waste Stream Profile Form RF118.01 (TRM Incinerator Ash) – MJP-179-2001. September 17.

22. WASTREN 2001. Interoffice Memorandum from Scott Smith to Eric D'Amico. Tentatively Identified Compounds in TRM Incinerator Ash Waste (D004-D011, F001, F002, F05). SMS-002-2001. August 16.

23. Tenera 2001. RFETS Interoffice Correspondence from Thomas R. Gatliffe to Eric L. D'Amico. Headspace Gas Analysis Data Evaluation Report for Waste Stream Profile RF118.01 (TRM Incinerator Ash) Lot 2 – TRG-073-01. August 30.

24. WASTREN 2001. Interoffice Memorandum from Jeff Harrison to Mike Papp. Justification for Not Applying F003 to Incinerator Wastes to be Disposed at WIPP, JLH-017-2001. October 9.

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