



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

August 19, 2002



Mr. Steve Zappe
Hazardous Waste Permits Program
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
2905 E. Rodeo Park Drive, Bldg. 1
Santa Fe, NM 87505



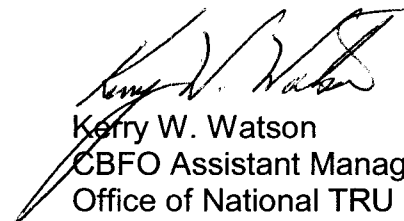
Subject: Transmittal of Approved Waste Stream Profile Form for Rocky Flats
Environmental Technology Site, Number RF124.01

Dear Mr. Zappe:

The Department of Energy, Carlsbad Field Office (CBFO) has approved the Rocky Flats Environmental Technology Site (RFETS), Waste Stream Profile Form RF124.01. 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
CBFO Assistant Manager
Office of National TRU Program

Enclosure

cc: w/o enclosure
J. Kieling, NMED
C. Walker, TechLaw
J. Bennett, WTS
P. Roush, WTS
L. Greene, WTS
S. Calvert, CTAC
CBFO Mailroom



WIPP WASTE STREAM PROFILE FORM

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Waste Stream Profile Number: RF124.01

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; June 5, 2001 and April 8, 2002

Title, version number, and date of documents used for WAP certification: Rocky Flats Environmental Technology Site TRU Waste Characterization Program Quality Assurance Project Plan, 95-QAPIP-0050, Revision 6, March 2002.

Transuranic (TRU) Waste Management Manual, 1-MAN-008-WM-001, Revision 5, May 2002. Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant, Revision 0, May 2002.

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-MR-0339 (RF-W029), RF-MT0339 (RF-W029), RF-MR0341 (RF-W041), RF-MT0341 (RF-W041)

Summary Category Group: S5000 Waste Matrix Code Group: Combustible Waste (S5311)

Waste Stream Name: Leaded Drybox Gloves/REM, Leaded Drybox Gloves/TRM, and Leaded Gloves-Acid Contaminated/TRM⁽²⁾

Description from the WTWBIR: This waste stream is a solid matrix consisting of gloves with lead lining.

Defense TRU Waste: Yes No

Check one: CH RH Number of SWBs 1 Number of Drums 592 Number of Canisters N/A

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

List applicable EPA Hazardous Waste Codes⁽³⁾: D008

Applicable TRUCON Content Codes: RF 123A, RF 123E, RF 123F, RF 123I, RF 123N

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. 11, 12
- 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
 - Naval Reactors development
 - Verification and control technology
 - Defense research and development
 - Defense nuclear waste and material by products management
 - Defense nuclear materials production
 - Defense nuclear waste and materials security and safeguards and security investigations

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

- Process design documents: NOTE 4
- Standard operating procedures: NOTE 4
- Safety Analysis Reports: NOTE 4
- Waste packaging logs: NOTE 4
- Test plans/research project reports: NOTE 4
- Site databases: NOTE 4
- Information from site personnel: NOTE 4
- Standard industry documents: NOTE 4
- Previous analytical data: NOTE 4
- Material safety data sheets: NOTE 4
- Sampling and analysis data from comparable/surrogate Waste: NOTE 4
- Laboratory notebooks: NOTE 4

Sampling and Analysis Information⁽¹⁾

[For the following, when applicable, enter procedure title(s), number(s) and date(s)]

- Radiography: Reference List, Nos. 7, 8
- Visual Examination: Reference List, No. 9
- Headspace Gas Analysis
 VOCs: Reference List, No. 10
 Flammable: Reference List, No. 10
 Other gases (specify): N/A
- Homogeneous Solids/Soils/Gravel Sample Analysis (Tables 1, 3, 4, and 5 are not applicable and not included)
 Total metals: N/A
 PCBs: N/A
 VOCs: N/A
 Nonhalogenated VOCs: N/A
 Semi-VOCs: N/A
 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]
Signature of Site Project Manager

G. A. O'Leary, Manager TRU Programs
Printed Name and Title

8/14/02
Date

[Signature]
Signature of Site QA Officer

C. L. Ferrera, TWCP Site QAO
Printed Name and Title

8/14/02
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 signed Characterization Information Summary documenting this determination.
 - (3) Acid contaminated leaded gloves (RF MR0341 and RF MT0341) have been washed to remove the acid contamination. After washing, they were packaged as IDC 339 (RF MR0339 and RF MT0339), see Reference List Number 1.
 - (4) See the References section in the Acceptable Knowledge Summary (attached) for additional backup documentation associated with this waste stream.

REFERENCE LIST

1. Backlog Waste Reassessment Baseline Book, Waste Forms 42 and 43, Leaded Glovebox Gloves, March 2002.
 2. Waste Stream and Residue Identification and Characterization (WSRIC), Revision 7, 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 (TRU) Waste Certification, PRO-X05-WC-4018, Revision 4, May 2002.
 6. Acceptable Knowledge TRU/TRM Waste Stream Summaries, RMRS-WIPP-98-100, Revision 15, July 2002.
 7. Real-Time Radiography Testing of Transuranic and Low-Level Waste, 4-W30-NDT-00664, Revision 5, October 2001
 8. Real-Time Radiography Testing of Transuranic and Low-Level Waste in Building 569, 4-119-NDT-00569, Revision 6, January 2002.
 9. Visual Examination for Confirmation of RTR, 4-H80-776-ASRF-007, Revision 5, June 2001.
 10. GC/MS Determination of Volatile Organics Waste Characterization, L-4111-X, January 2002.
 11. Waste Characterization, Generation, and Packaging, 1-PRO-079-WGI-001, Revision 4, May 2002.
 12. Waste Characterization Program Manual, 1-MAN-036-EWQA-Section 1.6.1, Revision 3, May 2002.
 13. Interoffice Memorandum from Thomas R. Gatcliffe to Eric L. D'Amico, Headspace Gas Analysis Data Evaluation Report For The Confirmation of EPA Hazardous Waste Numbers Using Headspace Gas Analytical Results For Waste Stream Profile Number RF124.01 Lot 1 - TRG-037-02, June 2002.
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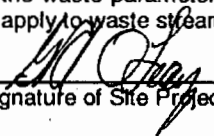
**Form A
Reconciliation with Data Quality Objectives**

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

WSPF # RF124.01

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	N/A	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	N/A	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	N/A	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	N/A	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

8/14/02
Date

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Data Summary Report—Table 2: Headspace Gas Summary Data

WSPF # RF124.01

Sampling and Analysis Method (check one):

100% Sampling

Reduced Sampling

2A

ANALYTE ^a	# Samples ^b	Mean ^c (ppmv)	SD ^c (ppmv)	UCL _w ^c (ppmv)	RTL ^c (ppmv)	EPA Code ^e
1,1-Dichloroethane					NA	
1,2-Dichloroethane					10	
1,1-Dichloroethylene					10	
cis-1,2-Dichloroethylene					NA	
trans-1,2-Dichloroethylene					NA	
1,1,2,2-Tetrachloroethane					10	
1,1,1-Trichloroethane	7	0.37	0.60	0.49	10	
1,1,2-Trichloro-1,2,2-Trifluoroethane					10	
1,2,4-Trimethylbenzene	1	0.17	0.05	0.18	NA	
1,3,5-Trimethylbenzene	1	0.17	0.06	0.18	NA	
Acetone	23	16.91	23.04	21.33	100	
Benzene	4	0.47	0.71	0.61	10	
Bromoform					NA	
Butanol					100	
Carbon disulfide	4	0.36	0.20	0.40	10	
Carbon tetrachloride	4	0.33	0.90	0.51	10	
Chlorobenzene					10	
Chloroform	9	0.28	0.35	0.34	10	
Cyclohexane					NA	
Ethyl benzene	1	0.20	0.26	0.25	10	
Ethyl ether					10	
Methanol	1	6.6	2.2	7.03	100	
Methyl ethyl ketone	6	1.99	1.22	2.23	100	
Methyl isobutyl ketone					100	
Methylene chloride	11	0.77	1.03	0.97	10	
o-Xylene	2	0.21	0.32	0.27	10	
m,p-Xylene	5	0.40	1.11	0.61	10	
Tetrachloroethylene					10	
Toluene	30	1.9	2.3	2.31	72.02 ^d	
Trichloroethylene					10	

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

WSPF # RF124.01

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 A total of 46 samples were collected and analyzed. Analysis was performed on 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 1/2 MDL for less-than-detectable observations.
- ^f Headspace sampling and analysis was conducted prior to the addition of (trans)-1,2-dichloroethylene to the target analyte list.

**Data Summary Report—Table 6: Exclusion of
Prohibited Items**

WSPF # RF124.01

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
- Non-Mixed hazardous waste

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

WSPF # RF124.01

Package No.^a	Radioassay Data Package	Headspace Sample Batch No.	Headspace VOC Data Package	RTR Data Package
D50515	569IP1-DP-012502	01W0224	HVOC-DP-00554	5T-0282
D58999	569IP1-DP-040502	01W0184	HVOC-DP-00511	6T-1866
D64708	CPN-97-003	01W0170	HVOC-DP-00499	6T-2019
D70237	CPN-97-003	01W0159	HVOC-DP-00488	6T-2006
D70239	CPN-01-040	01W0184	HVOC-DP-00511	6T-1866
D73605	CPN-97-003	01W0156	HVOC-DP-00484	6T-2005
D73987	CPN-97-008	01W0171	HVOC-DP-00500	6T-2019
D73998	CPN-01-022	01W0123	HVOC-DP-00452	6T-1798
D74947	CPN-01-038	01W0179	HVOC-DP-00506	6T-1858
D75206	CPN-01-034	01W0163	HVOC-DP-00492	6T-1865
D75272	CPN-97-001	01W0169	HVOC-DP-00498	6T-2068
D75572	569IP1-DP-021902	01W0184	HVOC-DP-00511	6T-1866
D76176	CPN-97-008	01W0147	HVOC-DP-00476	6T-2002
D77130	CPN-97-001	01W0125	HVOC-DP-00462	6T-1801
D77348	CPN-97-008	01W0173	HVOC-DP-00502	6T-2032
D77384	CPN-01-031	01W0152	HVOC-DP-00481	6T-2016
D77860	CPN-01-034	01W0162	HVOC-DP-00491	6T-1859
D78037	CPN-97-008	01W0173	HVOC-DP-00502	6T-2042
D83466	CPN-97-003	01W0171	HVOC-DP-00500	6T-2048
D83566	CPN-97-003	01W0156	HVOC-DP-00484	6T-2004
D84360	CPN-01-036	01W0181	HVOC-DP-00508	6T-1867
D89869	569IP1-DP-021102	01W0194	HVOC-DP-00520	5T-0286
D90410	CPN-01-029	01W0142	HVOC-DP-00471	6T-2057
D91423	569IP1-DP-022202	01W0145	HVOC-DP-00473	6T-1846
D91447	CPN-01-035	01W0162	HVOC-DP-00491	6T-2019
D91513	CPN-01-035	01W0163	HVOC-DP-00492	6T-1861
D91541	569IP1-DP-012902	01W0151	HVOC-DP-00480	5T-0283
D91547	CPN-01-035	01W0163	HVOC-DP-00492	6T-1861
D91548	CPN-01-035	01W0161	HVOC-DP-00490	6T-2054
D91651	CPN-01-029	01W0144	HVOC-DP-00475	6T-2021
D92827	CPN-01-030	01W0146	HVOC-DP-00479	6T-2067
D93589	CIQ-01-052	01W0146	HVOC-DP-00475	6T-2015
D93844	CPN-99-016	01W0169	HVOC-DP-00498	6T-2017
D94579	CPN-01-031	01W0148	HVOC-DP-00477	6T-2054
D95001	CPN-01-029	01W0144	HVOC-DP-00472	6T-2013
D96745	CIQ-01-051	01W0144	HVOC-DP-00472	6T-2012
D98564	CPN-01-035	01W0161	HVOC-DP-00490	6T-2018
D99857	CPN-01-023	01W0127	HVOC-DP-00448	6T-1800

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**Data Summary Report—Table 7: Correlation
of Container Identification to Batch Data Reports (continued)****WSPF # RF124.01**

Package No.^a	Radioassay Data Package	Headspace Sample Batch No.	Headspace VOC Data Package	RTR Data Package
D99895	CPN-01-003	01W0001	HVOC-DP-00365	6T-1628
DA3950	CPN-01-007	00W0086	HVOC-DP-00358	6T-1689
DA4879	569IP1-DP-021902	01W0192	HVOC-DP-00519	6T-1628
DA4975	569IP1-DP-021902	01W0191	HVOC-DP-00516	6T-1627
DA5009	CPN-01-033	01W0153	HVOC-DP-00482	6T-1627
DA5435	CPN-00-016	01W0194	HVOC-DP-00520	5T-0118
DA8248	CPN-01-014	01W0001	HVOC-DP-00364	6T-1689
DA8359	CPN-00-022	01W0128	HVOC-DP-00458	6T-1706

NOTES:

a Radiography was performed on all of the containers identified here. All of the containers were candidates for visual examination for confirmation of radiography, however, none were selected.

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Acceptable Knowledge Summary

WSPF # RF124.01

RMRS-WIPP-98-100, Acceptable Knowledge TRU/TRM Waste Stream Summaries, Section 7.1, TRM
Leaded Drybox Gloves (D008) (attached).



Rocky Flats Environmental Technology Site

ACCEPTABLE KNOWLEDGE INFORMATION

**ACCEPTABLE KNOWLEDGE TRU/TRM
WASTE STREAM SUMMARIES**

RMRS-WIPP-98-100

Section 7.1

TRM Leaded Drybox Gloves (D008)

Profile No. RF124.01

Revision 15

Reviewed for Classification/UCNI
By: Unclassified Not UCNI
Reference Exemption Number CEX-032-00
Date: September 11, 2000

Approval signatures in Site Document Control history file

7.1 TRM Leaded Drybox Gloves (D008)

Profile No. RF124.01

Acceptable Knowledge Waste Stream Summary

Waste Stream Name: TRM Leaded Drybox Gloves (D008)

Generation Buildings: Buildings 371, 374, 440, 559, 707, 771, 774, 776, 777, and 779 ^(4,5,6,9)

Waste Stream Volume (Retrievably Stored): 346 55-gallon drums ^(5,6,18)

Generation Dates (Retrievably Stored): July 1987 – September 2001 ^(5,6,18)

Waste Stream Volume (Newly Generated): 52 55-gallon drums and 1 Standard Waste Box ^(5,6)

Generation Dates (Newly Generated): October 2001 – June 2002 ^(5,6)

Waste Stream Volume (Projected): 194 55-gallon drums ^(6,7)

Generation Dates (Projected): July 2002 – February 2006 ⁽⁷⁾

TRUCON Content Codes: RF 123A, RF 123E, RF 123F, RF 123I, RF 123N ⁽¹⁾

Process Knowledge Demonstrates Flammable VOCs in Headspace < 500 ppm: Yes (see Section 7.1.5)

7.1.1 Transuranic Waste Baseline Inventory Report Information ⁽²⁾

WIPP Identification Numbers: RF MR0339, RF MT0339, RF MR0341, RF MT0341

Summary Category Group: S5000 Waste Matrix Code Group: Combustible Waste

Waste Matrix Code: S5311

Waste Stream Name: Leaded Drybox Gloves/REM, Leaded Drybox Gloves/TRM, and Leaded Gloves-Acid Contaminated/TRM

Note: Acid contaminated leaded gloves (RF MR0341 and RF MT0341) have been washed to remove the acid contamination. After washing, they were packaged as IDC 339 (RF MR0339 and RF MT0339).⁴

Description from the TWBIR: This waste stream is a solid matrix consisting of gloves with lead lining.

07/10/02

7.1.2 Waste Stream Description

Table 7.1-1 presents the waste matrix codes and waste material parameters for TRM leaded drybox gloves.⁽³⁾

Table 7.1-1, Leaded Drybox Glove Waste Description

IDC	IDC Description	Waste Matrix Code	Waste Material Parameters	Weight % (Average)
339	Leaded Drybox Gloves, Not Acid Contaminated	S5311, Leaded Gloves/Aprons	Other Metal/Alloys Rubber	63% 37%

IDC 339, Leaded Drybox Gloves Not Acid Contaminated: Leaded drybox gloves and leaded aprons are manufactured with a lead oxide layer between two or more layers of neoprene-Hypalon for shielding against penetrating radiation.⁽⁴⁾

7.1.3 Areas of Operation

TRM leaded drybox gloves are generated by the following defense operations:⁽³⁾

- Plutonium Production
- Plutonium Recovery
- Laboratory Operations
- Research and Development
- Maintenance
- Waste and Residue Repackaging and Treatment
- Decontamination and Decommissioning (D&D)

7.1.4 Generation Processes

Table 7.1-2 provides the title of each generating process for TRM leaded drybox glove wastes along with the corresponding WSRIC building and process number. A description of each of these processes, process flow diagrams, and details of each leaded drybox gloves waste stream can be found in the *WSRIC Building Books* or *archived WSRIC files*.

Table 7.1-2, Leaded Drybox Glove Waste Generation Processes

Building	Process	Title
<i>Building 371</i>		
371	1	DCHP Preparation
371	2	Caustic Treatment
371	3	Repack Operations
371	4	Analytical Lab
371	5	Chemical Standards Laboratory

ACCEPTABLE KNOWLEDGE
 TRU/TRM WASTE
 STREAM SUMMARIES

07/10/02

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Building	Process	Title
371	6	PROVE Vacuum System
371	15	General Waste (RMMA) and Deactivation
371	18	Heating, Ventilation, and Air Conditioning System
371	20	Organic Contaminated Residue Treatment
371	21	Nitrate Contaminated Residue Treatment
371	23	Salt Residues Repack Project
371	25	Sand Slag & Crucible Residue Repack Project
371	26	Fluoride Stabilization
371	27	Dry Residue Repack
371	28	Ash Residue Repack
371	29	Plutonium Stabilization And Packaging System
371	30	Non-Regulated Radiological Process Ops (D&D)
371	31	Regulated Radiological Process Ops (D&D)
371	32	Sludge Processing and Repackaging
371	35	Low-Grade Oxide Repackaging
371	36	Metal Inspection, Brushing and Packaging
<i>Building 374</i>		
374	1	Acid Neutralization
374	2	Radioactive Decontamination
374	3	Sludge Solidification
374	4	Evaporation
<i>Building 440</i>		
440STOR	11	WIPP Characterization
<i>Building 559</i>		
559	24	Sample Break In And Sample Cutting
559	30	General Waste
<i>Building 707</i>		
707	1	Module A
707	2	Module K/X-Y Retriever
707	3	Module J
707	4	Rolling/Forming, Module B
707	6	Machining—Module A
707	7	Machining—Module C
707	11	Density Balance—Module B
707	12	Density Balance—Module C
707	13	Grit Blasting
707	14	Assembly – Module E
707	18	Weighing – Module D
707	19	Radiography
707	20	Inspection
707	23	Briquetting
707	26	Calibration Lab—Module D
707	32	Duct Remediation
707	35	Module B Through H
707	36	Deactivation/Decon/Decommissioning (D\3)
707	39	Salt Stabilization
707	40	Residue Vitrification Study
707	41	Dry Residue Repack

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Building	Process	Title
707	42	Ash Residue Stabilization/Repack
<i>Building 771</i>		
771	1	High-Level Dissolution
771	2	Low-Level Dissolution
771	3	Cation Exchange
771	4	Anion Exchange
771	5	Feed Evaporation
771	6	Precipitation Feed Batching
771	7	Precipitation
771	8	Precipitation Filtrate Evaporation
771	9	Calcination
771	10	Hydrofluorination
771	11	Reduction And Button Breakout
771	12	Miscellaneous Residue Processing
771	13	Metal Burning
771	14	Crushing And Grinding
771	15	Spray Leach
771	16	Oralloy Leach
771	17	Oralloy (OY) Precipitation
771	18	Special Recovery Anion Exchange
771	19	Caustic Filtration
771	20	Fume Scrubber
771	21	Vacuum Systems
771	23	Radioactive Inorganic Laboratory
771	24	Chemical Standards Laboratory
771	25	Chemical Technology
771	26	Plutonium Metallurgy
771	35	General Building Waste (RMMA)
771	36	H-4 Support Vacuum Systems
771	39	Solution Processing
771	40	Set 34, Decontamination & Decommissioning
771	41	Set 37, Decontamination & Decommissioning
771	43	Set 44, Decontamination & Decommissioning
771	44	Set 17, Decontamination & Decommissioning
771	46	Set 38B, Decontamination & Decommissioning
771	47	Set 38C, Decontamination & Decommissioning
771	48	Set 38D, Decontamination & Decommissioning
771	49	Set 39, Decontamination & Decommissioning
771	50	Set 41, Decontamination & Decommissioning
771	51	Set 50, Decontamination & Decommissioning
771	52	Set 07, Decontamination & Decommissioning
771	53	Set 25, Decontamination & Decommissioning
771	54	Set 27, Decontamination & Decommissioning
771	56	Set 46, Decontamination & Decommissioning
771	57	Set 28, Decontamination & Decommissioning
771	58	Set 12, Decontamination & Decommissioning
771	59	Set 26, Decontamination & Decommissioning
771	61	Set 42, Decontamination & Decommissioning
771	62	Support, Decontamination & Decommissioning

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Building	Process	Title
771	64	D&D Fixed Equipment, Glovebox and Tank Removal
<i>Building 774</i>		
774	2	Basic Liquid Waste: First Stage
774	3	Basic Liquid Waste: Second Stage
774	4	Precipitation/filtration
774	9	Miscellaneous Waste Handling
774	14	Support, Decontamination & Decommissioning
774	15	D&D Fixed Equipment, Glovebox and Tank Removal
<i>Building 776/777</i>		
776	1	Pyrochemical Processing
776	2	Size Reduction
776	3	Advanced Size Reduction Facility
776	13	Supercompactor
776	14	General Building Waste
777	1	Special Weapons Projects
777	2	Disassembly
777	4	Briquetting
777	6	Super Dry
777	7	Machining
777	8	Density Balance
777	9	Weighing
777	10	Radiography
777	11	Inspection
777	13	Nuclear Assembly Technology
777	15	Calibration Laboratory
777	16	Coatings Laboratory
777	17	Tritium Surveillance Laboratory
777	18	Plutonium Metallurgical Lab
777	23	General Building Waste
776_777	1	Advanced Size Reduction Facility
776_777	5	Supercompactor
776_777	6	General Building Waste and Decommissioning
776_777	12	Waste Repackaging
<i>Building 779</i>		
779	2	Generic Residue Treatment Process Wastes
779	8	RTT-- Salt Recycle
779	9	Hydride-Hydride And Metal
779	10	Hydride-Hydride/Oxide
779	11	Hydride - Acid Leach
779	12	Hydride - Acid Boil Down (Calcining)
779	14	Physical Metallurgy
779	16	RTT—Plutonium Oxide Dissolution
779	17	RTT—Peroxide Precipitation
779	18	RTT—Residue Recovery Extraction
779	19	Catalyzed Electrolytic Pu Oxide Dissolution
779	21	RTT--Ion Exchange Resin Project
779	23	Pu Tech-Gas-Solid Kinetic Studies
779	24	Pu Tech - Nuclear Material Comp. Studies

Building	Process	Title
779	25	Nondestructive Lab Testing & Metal Study
779	26	Surface Analysis Laboratory
779	27	Pu Tech-Microbalance Pu Reaction Studies
779	37	General Maintenance and Deactivation
779	40	Deactivation, Decontamination, and Decommissioning
779	42	Decontamination and Decommissioning Activities
779	43	Building D&D Activities

7.1.5 RCRA Characterization

This waste stream is characterized as a mixed waste. Table 7.1-3 presents the chemical constituent codes (CCCs) and EPA Hazardous Waste Numbers associated with the BWR Subpopulations and WSRIC Waste Streams assigned to TRM leaded drybox glove containers. Supporting characterization information is provided in the *BWR Baseline Book*, *WSRIC Building Book*, and *WSRIC archived files*.^{4,8,9,10,11,12,13,14,15,16}

Table 7.1-3, Leaded Drybox Glove Waste RCRA Characterization

IDC	BWR Subpopulation	WSRIC Waste Stream	RCRA CCCs	Non-RCRA CCCs	EPA Hazardous Waste Numbers
0339		371 - 3 - 8	24	00	D008
0339		371 - 15 - 20	24	00	D008
0339		371 - 20 - 11	24	00	D008
0339		371 - 20 - 21	24	70	D008
0339		371 - 21 - 4	24	0205	D008
0339		371 - 21 - 22	24	020570	D008
0339		371 - 23 - 19	24	00	D008
0339		371 - 25 - 19	24	00	D008
0339		371 - 26 - 6	24	00	D008
0339		371 - 27 - 24	24	00	D008
0339		371 - 28 - 8	24	00	D008
0339		371 - 29 - 14	24	00	D008
0339		371 - 30 - 0	N/A ¹	N/A ¹	N/A ¹
0339		371 - 31 - 0	N/A ¹	N/A ¹	N/A ¹
0339		371 - 32 - 19	24	00	D008
0339		371 - 35 - 2	24	00	D008
0339		371 - 36 - 19	24	07	D008
0339		371 - 36 - 20	24	00	D008
0339		440STOR - 11 - 11	24	00	D008
0339		559 - 24 - 13	24	00	D008
0339		559 - 30 - 77	24	00	D008
0339		707 - 1 - 42	24	00	D008
0339		707 - 1 - 77	24	00	D008
0339		707 - 2 - 31	24	00	D008
0339		707 - 3 - 15	24	00	D008
0339		707 - 4 - 19	24	32	D008
0339		707 - 32 - 12	24	00	D008

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IDC	BWR Subpopulation	WSRIC Waste Stream	RCRA CCCs	Non-RCRA CCCs	EPA Hazardous Waste Numbers
0339		707 - 35 - 12	24	00	D008
0339		707 - 36 - 12	24	00	D008
0339		707 - 36 - 48	24	07	D008
0339		707 - 36 - 184	24	32	D008
0339		707 - 39 - 11	24	00	D008
0339		707 - 40 - 2	24	00	D008
0339		707 - 41 - 25	24	00	D008
0339		707 - 42 - 8	24	00	D008
0339		771 - 4 - 4	24	00	D008
0339		771 - 10 - 4	24	00	D008
0339		771 - 12 - 5	24	00	D008
0339		771 - 13 - 2	24	00	D008
0339		771 - 14 - 3	24	00	D008
0339		771 - 18 - 4	24	00	D008
0339		771 - 19 - 4	24	05	D008
0339		771 - 20 - 3	24	05	D008
0339		771 - 23 - 4	24	00	D008
0339		771 - 24 - 4	24	00	D008
0339		771 - 25 - 5	24	00	D008
0339		771 - 26 - 3	24	00	D008
0339		771 - 35 - 35	24	00	D008
0339		771 - 36 - 7	24	00	D008
0339		771 - 39 - 8	24	00	D008
0339		771 - 40 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 41 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 43 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 44 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 46 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 47 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 48 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 49 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 50 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 51 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 52 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 53 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 54 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 56 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 57 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 58 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 59 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 61 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 62 - 0	N/A ¹	N/A ¹	N/A ¹
0339		771 - 64 - 0	N/A ¹	N/A ¹	N/A ¹
0339		774 - 2 - 3	24	00	D008
0339		774 - 3 - 3	24	00	D008
0339		774 - 4 - 4	24	00	D008
0339		774 - 9 - 3	24	00	D008
0339		774 - 14 - 0	N/A ¹	N/A ¹	N/A ¹

IDC	BWR Subpopulation	WSRIC Waste Stream	RCRA CCCs	Non-RCRA CCCs	EPA Hazardous Waste Numbers
0339		774 - 15 - 0	N/A ¹	N/A ¹	N/A ¹
0339		776 - 3 - 11	24	00	D008
0339		776 - 13 - 15	24	00	D008
0339		777 - 1 - 8	24	00	D008
0339		777 - 7 - 9	24	00	D008
0339		777 - 23 - 18	24	00	D008
0339		776_777 - 1 - 8	24	00	D008
0339		776_777 - 5 - 2	24	00	D008
0339		776_777 - 6 - 10	24	00	D008
0339		776_777 - 6 - 130	24	07	D008
0339		776_777 - 12 - 27	24	00	D008
0339		779 - 2 - 5	24	00	D008
0339		779 - 14 - 12	24	00	D008
0339		779 - 37 - 8	24	00	D008
0339		779 - 40 - 11	24	00	D008
0339		779 - 42 - 0	N/A ¹	N/A ¹	N/A ¹
0339		779 - 43 - 0	N/A ¹	N/A ¹	N/A ¹
0339		D&D - 4 - 16	24	00	D008
0339		D&D - 4 - 85	24	07	D008
0339	42A		24	05	D008
0339	42B		24	00	D008
0339	42D		24	00	D008

Note:

1. WSRIC waste streams with an output number of "0" refer to a D&D process, which does not include specific outputs. The specific outputs associated with the D&D process are identified by a D&D WSRIC waste stream that is also assigned to the waste.

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).

Leaded gloves are manufactured with a lead oxide layer between two or more layers of neoprene-Hypalon. Historical analytical data for leaded gloves indicates lead leaches from the gloves above the Regulatory Threshold Limit (RTL) of 5 mg/L. Therefore, the gloves exhibit the characteristic of toxicity for lead and are assigned EPA hazardous waste code D008. ^(4,8,9,10,11,12,13,14,15,16)

The leaded gloves in this waste stream may have come in contact with solvents but are not considered F-listed hazardous wastes. At the time the contact with solvent occurred, the gloves and solvents were not waste, but were being utilized for their intended purpose. These gloves also would not have become contaminated with solvent because they do not retain volatile solvents in the same manner as paper or cloth wipes.

Therefore, the leaded gloves in this waste stream are considered not to be F-listed hazardous waste under the mixture rule as provided in 40 CFR 261.3.⁽⁴⁾

Beryllium was used in the manufacture/assembly of weapons components, and residual beryllium contamination of plutonium parts may have occurred. Leaded gloves may have been contaminated with beryllium and therefore, trace quantities of beryllium may be present in this waste stream. Any beryllium present is as a contaminant of the process and not as unused commercial chemical product, and therefore is not a P015-listed waste.

Leaded gloves that were contaminated with nitric acid from aqueous processing operations were at one time assigned EPA hazardous waste code D003.^(2,4) The nitric acid dissolved the rubber layer of the gloves and reacted with the lead oxide layer to form lead nitrate and organic nitrate or nitro-organic compounds. However, it was determined that only small quantities of these compounds were formed and do not cause the gloves to exhibit the characteristic of reactivity. As a precaution, acid contaminated leaded gloves (IDC 341) were sent to Building 776 where they were washed to remove the acid contamination. The washed gloves were packaged as IDC 339.^(4,14) This waste stream includes leaded gloves assigned IDC 339 only.

The leaded gloves waste streams generated at RFETS and sent to the INEEL for storage have the same IDC but are considered different waste streams because of the EPA hazardous waste numbers assigned. The INEEL waste streams (TWBIR ID IN-W252.282, IN-W252.283, IN-W252.811, and IN-W252.1000) were generated and shipped to INEEL prior to the full implementation of RCRA and therefore, the waste was not segregated and characterized based on different hazardous properties. Sometime after the waste was shipped to INEEL, each IDC was evaluated and EPA hazardous waste numbers were assigned to each IDC as a whole.⁽²⁾

Headspace gas sampling and analysis did not detect any hazardous waste VOCs in which the 90% upper confidence limit exceeded the RTL, and tentatively identified compounds (TICs) were not found in at least 25% of the samples. These results confirm the acceptable knowledge characterization of this waste stream.⁽¹⁷⁾

Flammable volatile organic compounds (VOCs) were used primarily in the analytical laboratory processes that generated this waste stream.^(8,10) Solvent contamination is not anticipated in this waste stream because the gloves will not retain volatile solvents. Therefore, for the purpose of transportation requirements, AK is sufficient to definitively demonstrate and ensure that the concentration of flammable VOCs in the payload container headspace will never exceed 500 ppm.

7.1.6 Radionuclides

Table 7.1-4 presents the radionuclides potentially present in TRM leaded drybox gloves waste.⁽³⁾

Table 7.1-4, Leaded Drybox Glove Waste Radionuclides

IDC	Description	Radionuclides ¹
0339	Leaded Drybox Gloves	WG Pu, Am-241, DU, EU, Np-237

Key: WG Pu weapons-grade plutonium EU enriched uranium
 Am-241 americium-241 Np-237 neptunium-237
 DU depleted uranium

7.1.7 References

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2. DOE 1995. Transuranic Waste Baseline Inventory Report, Revision 2. DOE/CAO-95-1121.
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