ENTERED

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

AUG 11 2011

AUG 2011

Mr. John Kieling, Acting Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Review of Central Characterization Project – Hanford Site Profile Form Number, RLCCP308D1, Contact-Handled Transuranic Debris Waste from Decontamination and Decommissioning of the 308 Building

Dear Mr. Kieling:

The Carlsbad Field Office has approved the Waste Stream Profile Form, RLCCP308D1, Contact-Handled Transuranic Debris Waste from Decontamination and Decommissioning of the 308 Building.

Enclosed is a copy of the form as required by Section C-5a of the Waste Isolation Pilot Plant Hazardous Waste Facility Permit No. NM4890139088-TSDF.

If you have questions on this matter, please contact J. R. Stroble, Office of the National TRU Program Director, at (575) 234-7313.

Sincerely,

Roger A Nelson for:

Edward Ziemianski
Interim Manager

Enclosure

cc: w/enclosure

T. Hall, NMED	*ED
J. Davis, NMED	ED

cc: w/o enclosure

G. Pyles, DOE-HF	ED
J. R. Stroble, CBFO	ED
N. Castaneda, CBFO	ED
C. Fesmire, CBFO	ED
G. Basabilvazo, CBFO	ED
S. McCauslin, CBFO	ED
CBFO M&RC	

*ED denotes electronic distribution

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CBFO:NTP:JRS:GS:11-1709:UFC 5900.00

(1) Waste Stream Profile Number: RLCCP308D1	
(2) Generator site name: Hanford Site	(4)Technical contact: Veronica Waldram
(3) Generator site EPA ID: WA7890008967	(6) Technical contact phone number: (575) 234-7187
(5) Date of audit report approval by New Mexico Environment Department (NMED): September 2, 2010 and July 20, 2011	
(7) Title, version number, and date of documents used for WAP Certification: CCP-PO-001, CCP Transuranic Waste Characterization Quality Assurance Project Plan, Rev.20, June 16, 2011 CCP-PO-002, CCP Transuranic Waste Certification Plan, Rev. 26, July 14, 2011 CCP-PO-011, CCP/CH2M HILL Plateau Remediation Company Interface Document, Rev.4, March 2, 2011; Central Characterization Project Acceptable Knowledge Summary Report for Contact-Handled Mixed Transuranic Debris Waste From Decontamination and Decommissioning of the 308 Building Waste Stream: RLCCP308D1, Revision 1, June 15, 2011	
(8) Did your facility generate this waste? YES X NO	
(9) If no, provide the name and EPA ID of the original generator: NA	
Waste Stream Information	
(10) WIPP ID: RL308-01	(11) Summary Category Group: S5000
(12) Waste Matrix Code Group: Heterogeneous Debris Waste	(13) Waste Stream Name: Contact-Handled Transuranic Debris Waste From Decontamination and Decommissioning of the 308 Building
(14) Description from the TWBIR: The RLM308D waste stream is a debris waste stream associated with the 308 Building Fuel Development Laboratory, fuel fabrication capabilities, and deactivation. Examples of waste items in this waste stream include plutonium alloys, casting skulls, clad plates, plastic mounts, plutonium-aluminum scrap, metal mounts, plutonium pellets, rags, wipes, HEPA filters, batteries, stainless steel tubing, tape, thermometers, electrical wire, and a variety of other solid debris items.	
(15) Defense TRU Waste: YES X NO	
(16) Check One: CH X RH	

(17) Number of SWBs: 79	(18) Number of Drums: 19 55-gallon drums and 15 85-gallon drums	(19) Number of Canisters NA

(20) Batch Data Report numbers supporting this waste stream characterization: See Characterization Information Summary (CIS) Correlation of Container Identification Numbers to Batch Data Report Numbers
(21) List applicable EPA Hazardous Waste Numbers:[1] D004, D005, D006, D007, D008, D009, D011, F001, and F002
(22) Applicable TRUCON Content Numbers: RH 125/225
(23)**Acceptable Knowledge Information**
(For the following, enter the supporting documentation used [i.e., references and dates])
Required Program Information
(23A) Map of site: CCP-AK-RL-114, Rev. 1, June 15, 2011, Figures 1, 2, 3 and 4
(23B) Facility mission description: CCP-AK-RL-114, Rev. 1, June 15, 2011, Sections 4.2
(23C) Description of operations that generate waste: CCP-AK-RL-114, Rev. 1, June 15, 2011, Section 4.4
(23D) Waste identification/categorization schemes: CCP-AK-RL-114, Rev. 1, June 15, 2011, Section 4.5
(23E) Types and quantities of waste generated: CCP-AK-RL-114, Rev. 1, June 15, 2011, Section 4.5.1
(23F) Correlation of waste streams generated from the same building and process, as applicable: CCP-AK-RL-114, Rev. 1, June 15, 2011, Section 4.6.1

(24) Waste certification procedures: CCP-TP-030, CCP CH TRU Waste Certification and WWIS/WDS Data Entry, Rev. 29, April 26, 2011			
(25)Required Waste Stream Information			
(25A) Area(s) and building(s) from which the waste stream was generated: CCP-AK-RL-114, Rev. 1, June 15, 2011, Section 5.1			
(25B) Waste stream volume and time period of generation: CCP-AK-RL-114, Rev. 1, June 15, 2011, Section 5.2			
(25C) Waste generating process description for each building: CCP-AK-RL-114, Rev. 1, June 15, 2011, Sections 4.4 and 5.3			
(25D) Waste Process flow diagrams: CCP-AK-RL-114, Rev. 1, June 15, 2011, Figure 5			
(25E) Material inputs or other information identifying chemical/radionuclide content and physical waste form: CCP-AK-RL-114, Rev. 1, June 15, 2011, Section 5.4			
(25F) Waste Material Parameter Weight Estimates per unit of waste: See the table under Method for Determining Waste Material Parameters (WMPs) Weights Per Unit of Waste in the Summation of Aspects of AK Summary Report entitled Waste Stream RLCCP308D1 Waste Material Parameters			
(26) Which Defense Activity generated the waste[2]: (check one)			
	Weapons activities including defense inertial confinement fusion		Naval Reactors development
	Verification and control technology		Defense research and development
X	Defense nuclear waste and material by products management		Defense nuclear material production
	Defense nuclear waste and materials security and safeguards and security investigations		
(27)Supplemental Documentation			
(27A) Process design documents: NA			
(27B) Standard operating procedures: See P575, P1048, P1049, P1088 and P1089 in CCP-AK-RL-114, Revision 1, Section 8.0.			
(27C) Safety Analysis Reports: See P664 and P665 in CCP-AK-RL-114, Revision 1, Section 8.0.			
(27D) Waste packaging logs: See M396 in CCP-AK-RL-114, Revision 1, Section 8.0.			
(27E) Test plans/research project reports: See C051 and P567 in CCP-AK-RL-114, Revision 1, Section 8.0.			
(27F) Site databases: NA			
(27G) Information from site personnel: See C270, C274, C275, C276, C278, C393, C446 and DR020 in CCP-AK-RL-114, Revision 1, Section 8.0.			
(27H) Standard industry documents: NA			
(27I) Previous analytical data: See DR021, M375, M442, P1147 and P642 in CCP-AK-RL-114, Revision 1, Section 8.0.			
(27J) Material safety data sheets: See P606 in CCP-AK-RL-114, Revision 1, Section 8.0.			
(27K) Sampling and analysis data from comparable/surrogate Waste: NA			
(27L) Laboratory notebooks: See U003 in CCP-AK-RL-114, Revision 1, Section 8.0.			
Confirmation Information[2]			
For the following, when applicable, enter procedure title(s), number(s) and date(s)			
(28)	Radiography: CCP-TP-053, Revision 11, July 20, 2011		
(29)	Visual Examination: N/A		

(30) Comments:
For a list of the waste characterization procedures used and date of the respective procedures see the list of procedures in the attached CIS.

Reviewed by AK Expert:	**YES** [X]		**Date:** 7-21-2011
Reviewed by STR (If necessary):	**YES** [X]	**N/A** [ ]	**Date:** 7-21-2011

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.

(31) Veronica Waldram	(32) Veronica Waldram	(33) 8/4/11
Signature of Site Project Manager	Printed Name	Date

NOTE: (1) If, radiography, visual examination were used to confirm EPA Hazardous Waste Numbers, attach signed Characterization Information Summary documenting this determination.

(2) Other Defense Activities are Defense research and Development and Naval Reactors Development.

CHARACTERIZATION INFORMATION SUMMARY

WSPF # RLCCP308D1

Lot 1

TABLE OF CONTENTS

Waste Stream #	RLCCP308D1	Lot #:	1
AK Expert Review:	N/A	Date:	N/A
SPM Review:	Veronica Waldram Veronica Waldram	Date:	8/1/2011

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE):

CCP-TP-053	Rev. 7	10/21/09	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Non Destructive Assay (NDA):

CCP-TP-070	Rev. 0	01/11/10	CCP Gamma Energy Assay (GEA) Calibration, Confirmation, and Verification Procedure
CCP-TP-071	Rev. 0	01/11/10	CCP Gamma Energy Assay (GEA) Operating Procedure
CCP-TP-071	Rev. 1	02/17/11	CCP Gamma Energy Assay (GEA) Operating Procedure
CCP-TP-072	Rev. 0	01/12/10	CCP Gamma Energy Assay (GEA) Data Review, Validation, and Reporting Procedure
CCP-TP-072	Rev. 1	01/28/11	CCP Gamma Energy Assay (GEA) Data Review, Validation, and Reporting Procedure

Headspace Gas Sampling and Analysis (HSG):

CCP-TP-093	Rev. 13	03/19/07	CCP Sampling of TRU Waste Containers
CCP-TP-093	Rev. 14	12/29/10	CCP Sampling of TRU Waste Containers
CCP-TP-093	Rev. 15	03/10/11	CCP Sampling of TRU Waste Containers
CCP-TP-106	Rev. 6	07/12/07	CCP Headspace Gas Sampling Batch Data Report Preparation
CCP-TP-106	Rev. 7	12/29/10	CCP Headspace Gas Sampling Batch Data Report Preparation
CCP-TP-173	Rev. 1	09/30/09	CCP Analysis of Gas Samples for VOCs by GC/FID
CCP-TP-175	Rev. 0	06/02/07	CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 1	03/29/10	CCP Analysis of Gas Samples for VOCs by GC/MS
CCP-TP-175	Rev. 2	12/29/10	CCP Analysis of Gas Samples for VOCs by GC/MS

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 17	09/24/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/10	CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 21	08/04/09	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 17	11/09/09	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 18	12/29/10	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 18	11/16/08	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/06/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/11	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 27	12/14/09	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 28	05/12/10	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/11	CCP CH TRU Waste Certification and WWIS/WDS Data Entry

WAP Certification:

CCP-PO-001	Rev. 17	06/23/09	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 22	01/12/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/11	CCP Transuranic Waste Certification Plan
CCP-PO-011	Rev. 0	07/22/09	CCP/CH2M Hill Plateau Remediation Company Interface Document
CCP-PO-011	Rev. 1	12/22/09	CCP/CH2M Hill Plateau Remediation Company Interface Document
CCP-PO-011	Rev. 2	07/27/10	CCP/CH2M Hill Plateau Remediation Company Interface Document
CCP-PO-011	Rev. 3	10/05/10	CCP/CH2M Hill Plateau Remediation Company Interface Document
CCP-PO-011	Rev. 4	03/02/11	CCP/CH2M Hill Plateau Remediation Company Interface Document

CIS002

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # RLCCP308D1 1

Container ID Number	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR		
							Sample	Analysis	
RL0045430	RLGEAA0165	RLRTRA0201	NA	NA	NA		RLHSG1106	ECL11023M	ECL11023G
RLMW09700168	RLNDAB11024	RLRTR010026	NA	NA	NA		RLHSG1106	ECL11023M	ECL11023G
RLMW09700200	RLNDAB11024	RLRTR010026	NA	NA	NA		RLHSG1106	ECL11023M	ECL11023G
RLMW09700201	RLNDAB11024	RLRTR010026	NA	NA	NA		RLHSG1106	ECL11023M	ECL11023G
RLMW09700210	RLNDAB11024	RLRTR010026	NA	NA	NA		RLHSG1106	ECL11023M	ECL11023G
RLMW09700229	RLNDAB11024	RLRTR010026	NA	NA	NA		RLHSG1106	ECL11023M	ECL11023G
RLMW10700052	RLNDAB11024	RLRTR010025	NA	NA	NA		RLHSG1106	ECL11023M	ECL11023G
RLMW10800460	RLGEAA0165	RLRTRA0201	NA	NA	NA		RLHSG1106	ECL11023M	ECL11023G
RLMW11700026	RLNDAB11025	RLRTR010025	NA	NA	NA		RLHSG1106	ECL11023M	ECL11023G
* This container was randomly selected for headspace gas sampling and analysis and are included to resolve EPA hazardous waste number assignment only. NDE and NDA BDR numbers for this container are included for information purposes only. Based on NDA characterization data this container is LLW.									
RLMW10800325	RLGEAA0165	RLRTRA0201	NA	NA	NA		RLHSG1106	ECL11023M	ECL11023G

Veronica Waldram

Signature of Site Project Manager

Veronica Waldram

Printed Name

8/1/2011

Date

CTS003

CCP Headspace Gas UCL_{90} Evaluation Form

WSPF #: RLCCP308D1

Waste Stream Headspace Gas Lot Number 1 through 1

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL_{90} (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL_{90} > PRQL Yes	EPA Hazardous Waste Number
Benzene	SQRT	5	10	0.45	0.27	0.13	0.33	10	3.16		
Bromoform	No	0	10	0.07	0.01	0.02	0.02	10	N/A		
Carbon tetrachloride	No	0	10	0.19	0.03	0.05	0.06	10	N/A		
Chlorobenzene	No	0	10	0.16	0.03	0.05	0.05	10	N/A		
Chloroform	No	0	10	0.24	0.04	0.07	0.07	10	N/A		
Cyclohexane[a]	No	2	10	0.77	0.11	0.23	0.21	10	N/A		
1,1-Dichloroethane	No	0	10	0.49	0.09	0.14	0.15	10	N/A		
1,2-Dichloroethane	No	0	10	0.28	0.05	0.08	0.08	10	N/A		
1,1-Dichloroethylene	No	0	10	0.18	0.03	0.05	0.05	10	N/A		
cis-1,2-Dichloroethylene [2]	No	0	10	0.20	0.04	0.06	0.06	10	N/A		
trans-1,2-Dichloroethylene	No	0	10	0.22	0.04	0.06	0.07	10	N/A		
Ethyl benzene	No	0	10	0.20	0.03	0.06	0.06	10	N/A		
Ethyl ether	No	0	10	0.46	0.08	0.13	0.14	10	N/A		
Methylene chloride	No	0	10	0.21	0.04	0.06	0.06	10	N/A		
1,1,2,2-Tetrachloroethane	No	0	10	0.13	0.02	0.04	0.04	10	N/A		
Tetrachloroethylene	No	0	10	0.14	0.02	0.04	0.04	10	N/A		
Toluene	Log	5	10	4.41	-1.59	2.53	-0.49	10	2.30		
1,1,1-Trichloroethane	No	0	10	0.19	0.03	0.06	0.06	10	N/A		
Trichloroethylene	Log	0	10	-1.58	-3.80	0.78	-3.46	10	2.30		
Trichlorofluoromethane[2]	No	0	10	0.21	0.04	0.06	0.06	10	N/A		
1,1,2-Trichloro-1,2,2-trifluoroethane	No	0	10	0.11	0.02	0.03	0.03	10	N/A		
1,2,4-Trimethylbenzene[a]	No	0	10	0.17	0.03	0.05	0.05	10	N/A		
1,3,5-Trimethylbenzene[a]	No	0	10	0.19	0.03	0.05	0.06	10	N/A		
m,p-Xylene[b]	No	2	10	0.19	0.04	0.05	0.07	10	N/A		
o-Xylene	No	0	10	0.20	0.03	0.06	0.06	100	N/A		
Acetone	Log	10	10	1.89	0.28	1.08	0.75	100	4.61		
Butanol	Log	9	10	3.50	0.25	2.13	1.18	100	4.61		
Methanol	No	0	10	14.00	13.90	0.21	13.99	100	N/A		
Methyl ethyl ketone	SQRT	6	10	0.74	0.45	0.21	0.54	100	10.00		

CTS004

CCP Headspace Gas UCL_{90} Evaluation Form

CH S085

WSPF #: RLCCP308D1

Waste Stream Headspace Gas Lot Number 1 through 1

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL_{90} (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL_{90} > PRQL Yes	EPA Hazardous Waste Number
Methyl isobutyl ketone	No	2	10	0.40	0.10	0.12	0.15	10	N/A		
Chloromethane[(2)]	No	2	10	0.38	0.08	0.11	0.13	10	N/A		
Carbon Disulfide[(2)]	SQRT	9	10	0.71	0.42	0.18	0.50	10	3.16		
1,2-Dichloropropane[(2)]	No	0	10	0.25	0.04	0.07	0.07	10	N/A		
Formaldehyde[c]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydrazine[d]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[a] These compounds are from CCP-PO-003, CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC) and are flammable VOCs that do not appear in CCP-PO-001. These are not part of the target analyte list, but samples may be analyzed for these compounds.

[b] These xylene isomers cannot be resolved by the analytical methods employed in the program. m-Xylene and p-Xylene will be reported as "Total m-p-Xylene."

[c] Required only for homogenous solids and soil/gravel waste from Savannah River Site.

[d] Required only for homogenous solids and soil/gravel waste from Oak Ridge National Laboratory and Savannah River Site.

Comments:

(1) For analytes where there were no samples measured above the MDL value, 1/2 of the MDL value was used. (Per section C4 of the WAP, 1/2 of the MDL value is used in calculating the mean concentration.)

(2) The noted analytes are not included in the target analyte list Table C3-2 of HWFP Attachment C3. The analytes are reported in the analysis Batch Data Report provided by the Idaho lab and included on the UCL_{90} for completeness.

Veronica Waldram — Signature of Site Project Manager

Veronica Waldram — Printed Name

8/1/2011 — Date

CCP Headspace Gas Summary Data

Waste Stream Number RLCCP308D1 Lot Number (s) 1

Tentatively Identified Compound	Maximum Observed Estimated Concentrations (ppmv)	# Samples Containing TIC	% Detected
None	N/A	N/A	N/A

Data Supports EPA Hazardous Waste Numbers Assigned by AK? ☑ Yes ☐ No

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

SPM Signature Veronica Waldram Date 8/1/2011

CIS 006

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: RLCCP308D1 Lot(s)#: 1

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	RTR Data confirm that none of the containers in this lot contain any prohibited items.	None of the containers in this lot were processed through VE.

a. See Batch Data Reports

b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR and/or VE: RTR was selected as the characterization method because the waste containers were previously packaged or will be repackaged by host site personnel and RTR is an acceptable characterization method to meet all the Data Quality Objectives for NDE of waste stream RLCCP308D1.

Veronica Waldram — Site Project Manager Signature

Veronica Waldram — Printed Name

8/1/2011 — Date

CCP Reconciliation with Data Quality Objectives

WSF# RLCCP308D1 Lot # 1

Sampling Completeness

RTR:

Number of Valid Samples: 9 Number of Total Samples Analyzed: 9

Percent Complete: 100 (QAO is 100%)

NDA

Number of Valid Samples: 9 Number of Total Samples Analyzed: 9

Percent Complete: 100 (QAO is 100%)

HSG

Number of Valid Samples: 10 Number of Total Samples Collected: 10

Percent Complete: 100 (QAO is ≥90%)

Number of Valid Samples: 10 Number of Total Samples Analyzed: 10

Percent Complete: 100 (QAO is ≥90%)

Total VOC

Number of Valid Samples: NA Number of Total Samples Collected: NA

Percent Complete: NA (QAO is ≥90%)

Number of Valid Samples: NA Number of Total Samples Analyzed: NA

Percent Complete: NA (QAO is ≥90%)

Total SVOC

Number of Valid Samples: NA Number of Total Samples Collected: NA

Percent Complete: NA (QAO is ≥90%)

Number of Valid Samples: NA Number of Total Samples Analyzed: NA

Percent Complete: NA (QAO is ≥90%)

Total Metals

Number of Valid Samples: NA Number of Total Samples Collected: NA

Percent Complete: NA (QAO is ≥90%)

Number of Valid Samples: NA Number of Total Samples Analyzed: NA

Percent Complete: NA (QAO is ≥90%)

CCP Reconciliation with Data Quality Objectives

WSF# RLCCP308D1 Lot # 1

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The waste matrix code identified is consistent with the type of sampling and analysis used to characterize the waste.
4	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
5	NA	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
6	Y	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for each VOC in the HSG of each container were calculated and compared with the program required quantitation limits, as reported in CCP-TP-003 Attachment 3, and additional U.S. Environmental Protection Agency (EPA) Hazardous Waste Numbers were assigned as required. Samples were randomly collected (when appropriate).
7a	NA	Mean concentrations, UCL_{90} values for the mean concentration, standard deviations, and the number of samples collected for solids VOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 4, and additional EPA HWNs were assigned as required. Samples were randomly collected.
7b	NA	Mean concentrations, (UCL_{90}) values for the mean concentration, standard deviations, and the number of samples collected for solids SVOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 5, and additional EPA HWNs were assigned as required. Samples were randomly collected.
7c	NA	Mean concentrations, (UCL_{90}) values for the mean concentration, standard deviations, and the number of samples collected for total metals were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 6, and additional EPA HWNs were assigned as required. Samples were randomly collected.

CIS009

CCP Reconciliation with Data Quality Objectives

WSF# RLCCP308D1 Lot # 1

8	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 CFR 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.
9	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.
10	Y	Waste stream can be classified as hazardous or nonhazardous at the 90-percent confidence level.
11	Y	Appropriate packaging configuration and Drum Age Criteria (DAC) is applied and documented in the headspace gas sampling documentation, and the drum age met prior to sampling.
12	Y	TICs were appropriately identified and reported in accordance with the requirements of Section C3-1 of the QAPjP.
13	Y	The PRQLs for headspace gas VOCs were met for all analyses as evidenced by the analytical batch data reports.
14		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	Y	Y	Y
VE	NA	NA	NA
Headspace Gas Analysis	Y	Y	Y
Solids Sampling	NA	NA	NA
Solids VOCs	NA	NA	NA
Solids SVOCs	NA	NA	NA
Solids Metals	NA	NA	NA

Comments: NONE

Veronica Waldram — Signature of Site Project Manager

Veronica Waldram — Printed Name

8/1/2011 — Date

SUMMATION OF ASPECTS OF AK SUMMARY REPORT: WASTE STREAM RLCCP308D1

Overview:

The 308 Building debris waste stream RLCCP308D1 consists primarily of mixed heterogeneous debris and includes homogeneous solids (less than 50% in individual containers) that were generated from operation, maintenance, cleanup, and decontamination and decommissioning (D&D) operations of the 308 Building at Hanford during metallurgical laboratory, fuel fabrication, and deactivation activities performed primarily in gloveboxes, from 1970 to the present. Transuranic (TRU) waste in the RLCCP308D1 waste stream is in retrievable storage at the Central Waste Complex (CWC).

TRU waste generated in the 308 Building is contaminated with materials from atomic energy defense activities for defense nuclear waste and materials by-products management, and defense research and development conducted in the facility, and naval reactor development. Based on a review of the waste management practices in the Fuels Development Laboratory (FDL), no attempt was made to segregate the non-defense from defense-related materials. Because segregation of this waste is no longer feasible, this waste is by definition eligible for disposal at the WIPP facility.

Waste Stream Identification Summary:

Waste Stream Name:	Contact-Handled Transuranic Debris Waste From Decontamination and Decommissioning of the 308 Building
Waste Stream Number:	RLCCP308D1
Waste Stream Volume, Current:	19 55-gallon drums 15 85-gallon drums 79 Standard Waste Boxes (SWB)
Waste Stream Volume, Projected:	None
Generation Dates:	1970 to Present
Summary Category Group:	S5000
Waste Matrix Code Group:	Heterogeneous Debris Waste
Waste Matrix Code:	S5400, Heterogeneous Debris
TRUPACT-II Content Code (TRUCON):	RH125/RH225
Annual Transuranic Waste Inventory Report Identification Number:	RL308-01

SUMMATION OF ASPECTS OF AK SUMMARY REPORT: WASTE STREAM RLCCP308D1

Waste Stream Description and Physical Form:

The RLCCP308D1 waste stream consists of mixed heterogeneous debris generated from the 308 Building during fuel development and fuel fabrication laboratory activities for the development of plutonium containing reactor fuels. The waste stream meets the definition of waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity. Debris waste in waste stream RLCCP308D1 was generated by ongoing Building 308 process operations that have common physical waste items and contain similar hazardous constituents. Building 308 personnel historically did not segregate the waste generated from the various activities within the 308 Building, either by plutonium source or waste material parameter. The waste stream as a whole meets the definition of debris. Waste streams generated from the same building and activities including:

- This same waste stream was approved and shipped under the previously certified Hanford TRU program under waste stream number RLM308D.001.

Based on a review of container data and data generated previously by the Hanford TRU Waste Certification program, examples of potential waste items in the RLCCP308D1 waste stream are provided below:

- Iron-based Metals/Alloys: cans, stainless steel tubing, lab equipment (balances, motors, pumps, vacuum cleaner), tools (hammers, screw drivers, wrenches, shears, putty knives), brushes, metal rods, stabilized sweeps (small debris items including bolts, washers, and brush bristles), clad plates, rods, billets, and extrusion pieces;

- Aluminum-based metals/alloys: aluminum cans;

- Other Metals: fuses, batteries, lab equipment (balances, motors, pumps), cladding pieces, electrical wire, metal rods, ceramography samples (fuel pellet sections mounted in resin) and scrap plutonium metal alloy materials, such as turnings, and casting skulls;

- Other Inorganic Materials: bricks, fuses, glass (lab equipment, beakers), ceramics, asbestos, thermometers, grinding discs, vermiculite;

- Cellulosics: wipes, towels, high energy particulate air (HEPA) filters, prefilters, gloves (leather and canvas), Conwed absorbent pads, wood, tape;

- Rubber: gloves (Neoprene, Hypalon), leaded gloves;

- Plastics: plastic liners, bags, buckets, flashlights;

- Organic Matrix: absorbed oils and hydraulic fluids, absorbents (Cleanup-IV, Nochar A610, diatomaceous earth, and Radsorb).

SUMMATION OF ASPECTS OF AK SUMMARY REPORT: WASTE STREAM RLCCP308D1

Point of Generation: Waste stream RLCCP308D1 originated from the operations, maintenance, and cleanout activities in the 308 Building.

Area and/or Building of Generation: Waste stream RLCCP308D1 originated from the operations, maintenance and cleanout of numerous rooms within the 308 Building Fuels Development Laboratory. The waste may be repackaged at the T Plant, Waste Receiving and Processing facility or at PermaFix Northwest.

Generating Processes:

Description of Waste Generating Processes

During it's more than 30 year operating history, the primary mission of the FDL involved providing pilot-scale reactor fuel development and fabrication laboratory capabilities, specializing in handling plutonium and other radioactive materials. The equipment installed in the facility allowed fabrication of a wide variety of fuel configurations, in addition to metallography, radiography, and other research and development (R&D) capabilities.

This section describes the historical missions and operations at the FDL. The descriptions included represent the major missions performed in the FDL that are representative of the R&D capabilities and process operations.

Fuel Fabrication

Over 2,000 fuel configurations were produced in the facility before 1976 for a variety of reactors. The fuels were composed of plutonium and plutonium oxide, plutonium-uranium, plutonium oxide-uranium oxide, and plutonium alloys with aluminum. Alloys containing nickel, silicon-nickel, silicon, and zirconium in the 1 to 5 weight percent range were also fabricated for testing. Plutonium metal, alloys, and oxides, along with natural uranium oxide, were the most common materials processed during fuel fabrication in the FDL. Fabrication of uranium (U)-233, U-235, neptunium (Np)-237, and other elements was less common. Unpackaged, unclad fissile materials were processed in hoods or in gloveboxes. Fuel fabrication included casting, extruding, machining, draw sizing, straightening, rolling, annealing, autoclaving and welding for metal fuels, and densification, particle sizing, ball milling, blending, vibratory compacting, pellet pressing and sintering, and cladding of oxide and ceramic fuels. Assembly of fuel pins involved pin loading, decontamination, welding, and x-ray examination. Additional non-destructive analysis of the pins included gauging, leak check, gamma scan, eddy current, and ultrasonic testing.

The large gloveboxes employing water-cooled furnaces to heat or melt fissile material were used in the fabrication of Phoenix fuel plates, preparation of uranium oxide for blending with plutonium oxide and sintering and heat-treating of mixed uranium oxide for fuel pin fabrication. The fuel rods were processed through an autoclave. As the heat increased, some of the water formed steam, which forced the rest of the water from the autoclaves into two large horizontal blow-down tanks. Simultaneously, water was pumped out of the tanks and into a sewer leading to the 300 Area crib waste system.

The 308 Building was also used for processing of vendor-fabricated Fast-Flux Test Facility (FFTF) driver fuel pins, FFTF test fuel fabrication, and quality testing of vendor-manufactured fuel pins and fuel assemblies for FFTF and Experimental Breeder Reactor –II (EBR-II). About one in every 100 Pu-natural uranium (NU) or plutonium-depleted uranium (DU) fabricated driver fuel pins were downloaded to ensure mixed oxide standards were met. During the same time period, the 308 Building also prepared plutonium/uranium (U) mixed oxide (MOX) fuel test pins/assemblies, but the MOX wastes have been identified as a separate waste stream and has been shipped to the Waste Isolation Pilot Plant (WIPP). Samples, standards, downloaded pellets, excess pellets, material for recycle, and feed plutonium and uranium oxide powder were stored in the 308 and 324 Buildings. In addition, the 308 Building received material and scrap from the vendors during cleanout and shutdown of their facilities. The majority of these materials were transferred to the Plutonium Finishing Plant (PFP) when the fuel fabrication ended.

In 1976 the main mission of the 308 Building became preparation and quality assurance (QA) testing all FFTF fuel assemblies. These fuels consisted of mixed plutonium and uranium oxides in powder and pellet forms.

Smaller scale operations and experimental fuels were conducted utilizing less common elements. The polonium work in Room 213 of the 308 Building was directed to development and limited production of small, hollow, refractory metal micro-spheres containing a rare earth polonide. The polonium was received from Mound Laboratories, Miamisburg, Ohio with shipments limited to about 1 gram (4,500 Ci) each.

Metallurgical Laboratory

Metallurgical examination operations were conducted on the second floor of the FDL. Initially, material evaluations were conducted on Cm-244 materials obtained from the Oak Ridge National Laboratory, received as curium oxide powders (both CmO_2 and Cm_2O_3). In the late 1970s, the mission shifted to the material evaluations of Pu-239 and mixed oxide materials. Some work was also performed on Pu-238 and depleted uranium. These materials were tested using x-ray diffraction and scanning electron microscopy equipment set up in gloveboxes. Samples were also prepared for metallography and physical tests performed at the Hanford Engineering Development Laboratory (HEDL).

In the early 1980s, the mission changed to support the examination of vitrified waste materials assessing doping materials in glasses and studies of waste form damage. There was no indication that studies used actual high level waste. These studies, conducted for the Materials Characterization Center, involved assessing radiation damage to glass and ceramic waste forms. Studies also included the use of balances and furnaces for heat-treating and sintering.

Experimental Studies

Experimental studies were performed in the FDL on very small amounts of promethium-147 oxide, curium-244 oxide, americium-241 oxide, plutonium-238 oxide, and other high activity materials. These studies included melting point, thermal diffusivity, heat capacity, and x-ray diffraction experiments. A 20 kW induction-heated furnace capable of reaching 3,000°C was used to determine the melting points of materials. Photodiodes were used to monitor the melting process in the furnace. Heat capacity and thermal diffusivity tests were performed on ceramic materials in a high-temperature, resistance heated, laser-pulsed diffusivity furnace. Ceramic pellets were suspended in the furnace using tungsten prongs and a laser pulse was used to heat the sample to approximately 2,500°C.

Fabrication of pellets of promethium-147 oxide was performed in Room 114, 308 Building (as part of a heat source development project), by the Isotopes Development Section of the Fuels and Materials Department. Glove boxes in Rooms 219, 220, 223, and 225 were used for experimental studies on small amounts of Pm-147, promethium-147 oxide, curium-244 oxide, americium oxide, plutonium-238 oxide, and other high activity materials.

Deactivation

In 1992, the 308 Building FDL began deactivating the process equipment as a prelude to D&D activities. This included removing glovebox equipment, tools, and the special nuclear material (SNM). Deactivation was completed in March 1994, indicating that the utilities were disconnected and the SNM and hazardous/pyrophoric substances were removed from the gloveboxes. Removal of the working inventory of plutonium, used in making mixed oxide fuel pellets for FFTF and other test reactors, began in 1991 and was completed in 1992. These mixed oxide fuel pellets and plutonium metal alloy materials were transferred to the PFP storage vaults where they were repackaged and certified for disposal.

Table of Chemicals Assigned HWNs

Chemical	Use	EPA HWN
1,1,2-trichloro-1,2,2-trifluoroethane	Used as a solvent on swabs and wipes and in an ultrasonic bath during welding to clean components	F002
Arsenic	Impurity in alloys	D004
Barium	Impurity in alloys	D005
Barium sulfate	Identified in waste stream designation	D005
Cadmium	Impurity in alloys	D006
Carbon tetrachloride	Used for cleaning of metallurgical samples in ultrasonic bath	F001
Chromium	Impurity in alloys	D007
Lead	Hazardous constituent identified in waste stream; lead aprons, can shield, sheeting, weights, and bricks, leaded gloves, leaded glass, and lead solder in electrical equipment (motors and circuit boards)	D008
Mercury	Present in thermometers and alkaline batteries	D009
Silver	Impurity in alloys	D011
Silver oxide	Batteries used in process and D&D	D011
Trichloroethylene	Used for cleaning PRTR fuel components	F001/ F002

RCRA Determinations – Hazardous Waste Determinations

Historical Waste Management

The waste stream described in this report has been historically managed in accordance with Hanford waste management practices in compliance with the requirements imposed by the Washington State Department of Ecology. This same waste stream was approved and shipped under the previously certified Hanford TRU program under waste stream number RLM308D.001. Based on a review of Hanford historic waste management practices and characterization performed previously by the Hanford TRU Waste Certification Program, the Environmental Protection Agency (EPA) hazardous waste numbers (HWNs) assigned to this waste stream have been maintained with the exception of the assignment of F003 for constituents listed solely for ignitability.

The EPA HWNs assigned to this waste streams are D004 (arsenic), D005 (Barium), D006 (cadmium), D007 (chromium), D008 (lead), D009 (mercury), D011 (silver), F001 (carbon tetrachloride, trichloroethylene), F002 (1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethylene).

Ignitability, Corrosivity, Reactivity

This waste does not exhibit the characteristic of ignitability as defined in 40 CFR 261.21. The waste stream is comprised of debris materials and is not liquid. Ignitable liquids (e.g. kerosene and ethanol) that were used during D&D, scrap processing, and other operations in the 308 Building are not present in liquid form. The waste is not capable of causing fire through friction, absorption of moisture, or spontaneous chemical changes. This material is not a compressed gas or an oxidizer. Liquid in excess of TSDF-WAC limits will be removed or immobilized and compressed gases will be removed or vented prior to disposal at WIPP. Because the materials within this waste stream are not ignitable, D001 HWN was not applied to this waste stream.

This waste does not exhibit the characteristic of corrosivity as defined in 40 CFR 261.22. Corrosive liquids (e.g. sulfuric acid and sodium hydroxide) that were used during D&D, scrap processing, and other operations in the 308 Building were neutralized and stabilized (solidified, for example, using Portland cement) prior to packaging. Liquid in excess of TSDF-WAC limits will be removed or immobilized and compressed gases will be removed or vented prior to disposal at WIPP. Therefore, the D002 HWN was not applied to the waste stream.

This waste does not exhibit the characteristic of reactivity as defined in 40 CFR 261.23. The materials are stable and will not undergo violent chemical change or react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. The materials do not contain cyanides or sulfides, and are not capable of detonation or explosive reaction. Reactive metals (e.g. sodium) and alloys were reacted prior to disposal and potentially reactive reagents were not placed in the waste to ensure acceptance with the Hanford Site Solid Waste Acceptance Criteria for storage at Hanford. Liquid in excess of TSDF-WAC limits will be removed or immobilized and compressed gases will be removed or vented prior to disposal at WIPP. As a result, the materials within this waste stream are not reactive and the D003 HWN was not applied.

Toxicity Characteristic

Based on the review of the container documentation, facility procedures, interviews and other documentation this waste stream may contain debris contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24. As identified in the Waste Disposal Records and Contents Inventory Sheets, drums in this waste contain lead in many forms including, lead-lined gloves, weights, solder in electric equipment, leaded glass, bricks, and sheeting. Sources of mercury include alkaline batteries and thermometers. Other toxicity characteristic metals (i.e. arsenic, barium, cadmium, chromium, lead, mercury, and silver) have been identified in the waste or are contaminants in scrap plutonium alloy materials. Where a constituent has been identified and there is no quantitative data available to demonstrate that the concentration is below the regulatory threshold, the applicable EPA HWN is applied to the waste stream. Carbon tetrachloride is identified as an F-listed solvent. Because the more specific F-listed EPA HWN has been assigned for this compound, assignment of the corresponding toxicity characteristic HWN (D019) is not necessary. Therefore, waste stream RLCCP308D1 has been assigned EPA HWNs D004, D005, D006, D007, D008, D009, and D011.

<u>F-Listed Waste</u>

Review of Waste Disposal Records and Contents Inventory Sheets for containers assigned to waste stream RLCCP308D1 did not identify the presence of any F-Listed or other solvents in this waste stream. Additionally, the generators stressed that, in general, the FDL operations were very "dry" and solvent and other liquids were used infrequently and in very small quantities within the gloveboxes. However, based on a review of FDL procedures, interviews with FDL waste generators, and the waste management practices in use when the waste was generated, waste stream RLCCP308D1 may be mixed with waste listed in 40 CFR 261.31, *Identification and Listing of Hazardous Waste,* Subpart D. Although 1,1,2-trichloro-1,2,2-trifluoroethane was used outside of process gloveboxes, waste contaminated with this chemical may have been introduced into the TRU waste stream during deactivation activities. Carbon tetrachloride was used for ultrasonic cleaning of metallurgic samples in the FDL (F001). Trichloroethylene was used for cleaning of fuel components during assembling. Because carbon tetrachloride and trichloroethylene were used as solvents and are therefore regulated as listed hazardous wastes (F001/F002), the corresponding toxicity characteristic HWNs are not assigned. This waste has been assigned HWNs F002 as a hazardous waste from a non-specific source for trichloroethylene, and 1,1,2-trichloro-1,2,2-trifluoroethane. No specific large scale degreasing has been identified for F001 constituents. However, the F001 code is being carried forward for this waste to be consistent with similar, previous Hanford waste characterization for waste that has already been shipped to WIPP. F003 constituents, including acetone and methanol, are listed solely because these solvents are ignitable in the liquid form. The waste stream will not exhibit the characteristic of ignitability because it is not liquid; therefore, F003 is not assigned.

<u>U, K, P-Listed Chemicals</u>

Waste materials from operations and maintenance from the 308 Building's research and development and D&D were determined not to be mixed with hazardous waste from specific sources (40 CFR 261.32), discarded commercial chemical products, an off-specification commercial chemical products, or container residues or spill residues thereof (40 CFR 261.33). P- and U-listed reagents including acetone (U002) and beryllium powder (P015) were managed by the 308 Building laboratories. No source for hydrofluoric acid (U134) was identified in the waste. No pure product or unused chemicals have been placed into the TRU waste stream. Therefore, U-, and P- listed HWNs are not applied to waste stream RLCCP308D1.

The waste is not generated by any manufacturing process wastes from specific sources; therefore K-listed HWNs are not applied to waste stream RLCCP308D1.

Headspace Gas/Volatile Organic Compound Information

Headspace gas sampling has been performed on 10 randomly selected containers in Lot 1 in this waste stream. No new EPA hazardous waste numbers were assigned as a consequence of headspace gas sampling and analysis, nor were any Tentatively Identified Compounds identified. The specifics of this information are included in the attached Characterization Information Summary report.

Other Waste Streams generated from the Same Buildings and Processes

Waste streams generated from the same buildings and processes include:

- This same waste stream was approved and shipped under the previously certified Hanford TRU program under waste stream number RLM308D.001.
- Constituents identified from the 308 Building are also incorporated into the waste characterization for waste stream RLCCP300D1. Waste that can be identified as solely originating from the 308 Building are assigned to the waste stream in this report (RLCCP308D1); however, waste from the 308 Building may also be commingled with waste from other 300 Area buildings and is included in waste stream RLCCP300D1. Waste stream RLCCP300D1 is not part of waste stream RLCCP308D1.
- Waste from the mixed oxide project was certified and shipped under the previously certified Hanford TRU program under waste stream number RLHMOX.001. Waste stream RLHMOX.001 is not part of waste stream RLCCP308D1.

Polychlorinated Biphenyls (PCB)

Based on a review of the procedures for TRU waste handling and packaging, and historical data reviewed for the waste generated at the 308 Building, some containers assigned to this waste stream may contain polychlorinated biphenyls (PCB) items (e.g., fluorescent light ballasts, capacitors). These items may have been placed in the containers during housekeeping activities, cleanout and maintenance activities, stabilization, and decontamination and deactivation activities. Containers identified with greater than 50 parts per million (ppm) PCBs will be managed as a Toxic Substance Control Act (TSCA) waste under 40 CFR 761 and shipped in accordance with the PCB disposal requirements in the WIPP-WAC implemented in CCP-PO-002, *CCP Transuranic Waste Certification Plan.*

Prohibited Items

The absence of prohibited items is determined and documented through acceptable knowledge and characterization activities. Radiography is performed on each container to verify the absence of prohibited items. The following items have been determined as not present in the waste:

- Liquid waste
- Non-radioactive pyrophoric materials
- Hazardous waste not occurring as co-contaminants with TRU mixed waste (non-mixed hazardous waste)
- Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, or other wastes
- Explosives or compressed gases
- Waste with PCBs not authorized under EPA PCB waste disposal authorization
- Waste exhibiting the characteristics of ignitability, corrosivity, or reactivity
- Waste that has ever been managed as high-level waste and waste from tanks specified in Table C-8 of the WIPP HWFP, unless specifically approved through a Class 3 permit modification

Each container of waste is certified and shipped only after radiography:

- Did not identify any prohibited items in the waste container, or
- All prohibited items found in a waste container by radiography are identified and corrected (i.e., eliminated or removed) through the site non-conformance reporting system.

Justification for the Selection of Radiography or Visual Examination

Radiography will be used to characterize waste stream RLCCP308D1. Radiography will be used to examine this waste stream because the waste was previously packaged or will be repackaged by host site personnel and radiography is an acceptable characterization method to meet all the Data Quality Objectives for nondestructive examination (NDE) of waste stream RLCCP308D1.

Method for Determining Waste Material Parameters (WMPs) Weights Per Unit of Waste

The WIPP-Waste Analysis Plan (WAP) requires that the waste material parameter (WMP) weights be estimated for each TRU waste stream. To estimate the average WMP weights for waste stream RLCCP308D1, WMPs were evaluated for the TRU 308 Building waste stream processed under the previously certified Hanford TRU Waste Certification Program. Existing Hanford WIPP Waste Information System (WWIS)/Waste Data System (WDS) data for 300 containers was evaluated and WMP estimates were calculated based on the WWIS/WDS data and the RTR information for the 308 Building waste described in the Hanford AK report.

Waste Stream RLCCP308D1 Waste Material Parameters

WMP Description	Average Weight Percent	Weight Percent Range
Iron-based Metals/Alloys	52%	0 - 94.5%
Aluminum-based Metals/Alloys	0.1%	0 - 8.6%
Other Metals	7.9%	0 - 96.7%
Other Inorganic Materials	8.3%	0 - 100.0%
Cellulosics	9.5%	0 - 81.3%
Rubber	2.9%	0 - 66.5%
Plastics (waste materials)	19.2%	0 - 81.4%
Organic Matrix [1]	Trace%	
Inorganic Matrix	0%	
Soils/gravel	0%	
TOTAL INORGANIC	68.4%	
TOTAL ORGANIC	31.6%	

[1]Organic matrix was not reported WWIS/WDS data; however, these items are expected based on review of AK documentation.

List of AK Sufficiency Determinations

There are no sufficiency determination requests for this waste stream.

Transportation

This waste stream meets TRUPACT II Content Code (TRUCON) codes RH125/RH225.

Beryllium

There is a potential for beryllium to be present in the RLCCP308D1 waste stream. The only source of beryllium identified was in the Hanford Waste Designation Form and no other source could be identified. The Hanford estimated concentration was well below one percent. Based on AK documentation reviewed, no individual containers in this waste stream are expected to exceed greater than one percent beryllium. Waste determined to contain greater than one weight percent beryllium will be managed in accordance with the WIPP-Waste Acceptance Criteria (WAC).

Radionuclide Information

Based on historical Hanford data, U-238 and Pu-239 are the two predominant radionuclides by mass, and Pu-241 and Am-241 are the two predominant radionuclides by activity.

SUMMATION OF ASPECTS OF AK SUMMARY REPORT: WASTE STREAM RLCCP308D1

Using NDA results recorded by the previously certified Hanford TRU program in WWIS/WDS for 300 containers in the RLM308D.001 waste stream, estimated isotopic weights and curies were tabulated. Estimated ranges and averages by weight and curie were calculated for each radionuclide identified; these estimates are presented in the table below, Waste Stream RLM308D.001 WWIS Reported Radionuclides.

Waste Stream RLCCP308D.001 WWIS/WDS Reported Radionuclides

Radio-nuclide	Number of Contain-ers with Reported Radio-nuclide	Total Radio-nuclide Weight%	Total Radio-nuclide Curie%	Radionuclide Weight% Range for Individual Containers	Radionuclide Curie% Range for Individual Containers	Expected Present
WIPP Required Radionuclides						
Am-241	300	0.61%	10.90%	<0.01% - 20.98%	0.61% - 87.78%	Yes
Pu-238	300	0.04%	3.32%	<0.01% - 1.06%	<0.01% - 36.26%	Yes
Pu-239	300	17.65%	5.71%	0.07% - 96.96%	2.12% - 53.55%	Yes
Pu-240	300	3.03%	3.59%	0.01% - 23.69%	1.52% - 1.66%	Yes
Pu-242	299	0.15%	<0.01%	0.00% - 2.07%	0.00% - 0.01%	Yes
U-233	6	<0.01%	<0.01%	0.00% - 0.45%	0.00% - 0.04%	Yes
U-234	173	<0.01%	<0.01%	0.00% - 0.56%	0.00% - 0.12%	Yes
U-238	172	75.74%	<0.01%	0.00% - 99.69%	0.00% - 0.06%	Yes
Cs-137	48	<0.01%	<0.01%	0.00% - 0.05%	0.00% - 6.40%	Yes
Sr-90	48	<0.01%	<0.01%	0.00% - 0.03%	0.00% - 5.82%	Yes
Additional Radionuclides						
Am-243	4	<0.01%	<0.01%	0.00% - 0.05%	0.00% - 0.01%	Yes
Cf-249	1	<0.01%	<0.01%	0.00% - <0.01%	0.00% - <0.01%	Yes
Cm-243	4	<0.01%	<0.01%	0.00% - <0.01%	0.00% - 0.01%	Yes
Co-60	9	<0.01%	<0.01%	0.00% - <0.01%	0.00% - <0.01%	Yes
Eu-154	10	<0.01%	<0.01%	0.00% - <0.01%	0.00% - <0.01%	Yes
K-40	9	<0.01%	<0.01%	0.00% - 2.33%	0.00% - <0.01%	Yes
Na-22	19	<0.01%	<0.01%	0.00% - <0.01%	0.00% - <0.01%	Yes
Np-237	194	0.03%	<0.01%	0.00% - 32.30%	0.00% - 0.05%	Yes
Pu-241	300	0.14%	76.47%	<0.01% - 1.53%	<0.01% - 89.83%	Yes
Th-232	12	1.71%	<0.01%	0.00% - 68.51%	0.00% - <0.01%	Yes
U-232	22	<0.01%	<0.01%	0.00% - <0.01%	0.00% - <0.01%	Yes
U-235	170	0.88%	<0.01%	0.00% - 59.62%	0.00% - <0.01%	Yes

Payload Management

Payload management will not be applied to this waste stream.

AK Source Documents Used

Source Document Number	Title	Document Number	Author	Date
C009	Request for Approval of Waste Incidental to Reprocessing Determination for Hanford Site Transuranic Waste Stream RLM325D	FH-0602938	R.G. Gallagher	11/28/2006
C010	Contract No. DE-AE06-96RL 13200- Approval of Waste Incidental to Reprocessing Determination for Hanford Site Transuranic Waste Stream RLM325D	0700042	K.A. Klein	12/29/2006
C051	Sr-90 To Cs-137 Ratio for Appendix E of Hanford Site Transuranic Waste Certification Plan for NDA	M4T00-PJC-02-076	R. Clinton	4/11/2002
C073	Memo to C.S. Sutter re: PFP Residues Stabilization Activity Based Startup Plan for Group 2 Alloys	M2C00-02-026	A.K. McDowell	2/25/2003
C100	U234 To U235 and U234 to U238 Ratios for Appendix E of Hanford Site Transuranic Waste Certification Plan for NDA	M4T00-PJC-02-077	R. Clinton	4/11/2002
C230	Memo - Analysis of Hanford Site 308 Building Transuranic Waste Inventory	KJP/001/2003	K.J. Peters	8/7/2003
C234	Letter – Subject: Contract No. DE-AC06-96RL132000 - DOE Concurrence for Termination of Safeguards on Attractiveness Level D Material in Support of Residue Packaging at the Plutonium Finishing Plant (PFP)	01-MDD-027	J.M. Augustenborg	2/8/2001
C260	Radionuclide Evaluation for Hanford Site 308 Building Transuranic Waste	SMS/002/2003	S. Smith	8/8/2003
C261	Memo – Subject: Waste Matrix Code and Waste Material Parameter Determination for Hanford Site 308 Building TRU Waste	CCP/SMS/001/2003	S. Smith	8/6/2003
C270	Record of Communication with T. Venetz; Subject: Estimates of Plutonium Concentrations in Pu Alloys	N/A	D. Arrenholz	8/9/2004

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Source Document Number	Title	Document Number	Author	Date
C274	Record of Communication with C. Wilson and B. Weber re: Battelle Operations and Waste Management in 308 Laboratories	N/A	B. Crawford	8/14/2003
C275	Record of Communication with G. Lanham, et.al. re: Operations and Waste Management for 308 Fuel Fabrication Building	N/A	B. Crawford, K. Peters, T. Greager	8/12/2003
C276	Record of Communication Subject - 308 Building Heat Sealed Bags used in Waste Packaging	N/A	T.M. Greager	7/9/2003
C277	Record of Communication Subject - 308 Building Layers of Confinement used in Waste Packaging	N/A	T.M. Greager	7/9/2003
C278	Record of Communication Subject - 308 Building Heat Sealed Bags - Follow-up	N/A	T.M. Greager	7/30/2003
C347	Email - Subject: 308 Waste Uranium Isotopics	N/A	S.W. Bisping	9/23/2005
C360	Record of Communication - RE: Labeling	N/A	N/A	08/05/2010
C376	Origin of Plutonium	N/A	D.C. Lini	10/29/2003
C378	Memo – Subject: DOE-HQ Approval for Termination of Safeguards on Plutonium-Alloys at Hanford	01-MDD-019	P.M. Knollmeyer	3/7/2004
C379	Letter – Subject: Contract No. DE-AC06-96RL13200 – DOE Approval for Termination of Safeguards on Attractiveness Level C Plutonium Alloys at the Plutonium Finishing Plant (PFP)	N/A	K.A. Klein	7/3/2003
C380	Letter – Subject: Contract No. DE-AC06-96RL13200 – RL Approval for Termination of Safeguards on Specific Attractiveness Level "C" Plutonium Alloys at the Plutonium Finishing Plant	N/A	K.A. Klein	12/27/200 3
C384	Letter – Subject: Plans for Disposition of Alloy Materials at the Plutonium Finishing Plant	FH-0007214	G.W. Jackson, et.al	12/27/2000
C393	Record of Communication - Subject; Surrogates Used for Safeguards Termination in Miscellaneous Residues	N/A	D. Arrenholz	11/16/2004
C446	Record of Communication – Subject: Projected Inventory for RLCCP308D1	NA	S. Nance	04/19/2011

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Source Document Number	Title	Document Number	Author	Date
C447	Letter – RE: Completed Deactivation of 308 Building	033072	J. M. Steffen	06/25/1996
C448	Interoffice Memo – Subject: Historical Assessment for the 308 and 308A Buildings	131874	I. D. Jacques	01/25/2007
DR020	Discrepancy Resolution Regarding the Size of Heat-Sealed Bags from Hanford Site TRU Waste Generators	NA	S. Schafer	03/16/2011
DR021	Discrepancy Resolution for Assignments of HWNs for RLCCP308D1	NA	S. A. Nance	03/30/2011
M181	AK Source Documents Discrepancy Report for Waste Stream RLM308D.001	N/A	K.J. Peters	11/21/2003
M189	Attachment 6 - Waste Form, Waste Material Parameters, Prohibited Items, and Packaging for 308 Building debris	N/A	K.J. Peters	11/16/2003
M361	Attachment 1 – Acceptable Knowledge Documentation Checklist	N/A	K. Peters	11/23/2003
M367	308 Facility Debris Waste Stream Designation	308-DESDSI-00	M. Lakes, B. Bolls	11/18/2004
M374	Acceptable Knowledge Reevaluation Checklist for RLM308D	N/A	D. Arrenholz	3/21/2007
M375	Update for WIPP Operating Record - Change Notice #1, RLM308D (RLM308D.001)	N/A	N/A	08/15/2005
M396	308 Drum Container paperwork	N/A	N/A	02/18/2010
M442	WMP and Isotopic information for waste stream RLM308D.001 from the Hanford WWIS/WDS	N/A	N/A	01/05/2011
P041	Past Practices Technical Characterization Study-300 Area-Hanford Site	WHC-MR-0388	M.S. Gerber	December 1992
P052	Hanford Site Transuranic Waste Management Program Acceptable Knowledge Documentation for Retrievably Stored Contact-Handled Waste	HNF-3461, Rev. 0	D.A. Arrenholz	10/2006
P070	Hanford Site Transuranic Waste Certification Plan	HNF-2600, Revision 17	Hanford	12/29/2005
P071	History and Stabilization of the Plutonium Finishing Plant (PFP) Complex, Hanford Site	HNF-EP-0924	M.S. Gerber	3/1997
P072	Hanford Site Transuranic Waste Quality Assurance Project Plan	HNF-2599, Rev. 14	N/A	9/22/2005

Source Document Number	Title	Document Number	Author	Date
P073	Federal Register Rules for Atomic Energy Commission and Nuclear Regulatory Commission	N/A	U.S. Government	11/14/70, 2/27/87, 5/18/88, 3/4/93, 12/9/93 3/3/94
P074	Low Level or Transuranic Waste Classification of Hanford Tank Sample Residues as Non-High Level Waste Via the Evaluation Process	99-WPD-219, Rev. 0	H.E. Bilson	4/8/1999
P098	Determining Whether Transuranic Waste Is Defense Waste	N/A	R.P. Detwiler	4/18/2001
P153	WST History of the Plutonium Production Facilities at the Hanford Site Historic District 1943-1990	DOE/RL-97-1047	T.E. Marceau, D.W. Harvey, et. al.	June 2002
P191	Engineering Evaluation/Cost Analysis for the Plutonium Finishing Plant Sub-Grade Structures and Installations	HNF-30862	L. Oates, J.A. Teal, A.M. Hopkins, A.R. Sherwood, D.D. Lini	08/2006
P406	Plutonium Finishing Plant Plutonium-Uranium Oxide: Characterization of Items with <30 Weight Percent Plutonium	HNF-10919, Rev. 0	D. C. Lini, L. H. Rodgers	March 2002
P550	Comments on the Physics of Phoenix Fuel Reactors	HW-77394	P.L. Hofmann, L.C. Schmid, F.G. Dawson	4/25/1963
P555	Deactivation and Cleanout of the 308 Fuels Laboratory and the 232-Z Incinerator at the Hanford Site	N/A	N/A	10/22/1999
P567	Fabrication of Aluminum-Plutonium Fuel Elements for Lattice Tests in Support of PRTR	HW-51855	W.J. Bailey, R.K. Koler, D.A. Patterson	1/3/1958
P570	Fact Sheet in Support of 308 Pu-Al Alloy Flow Diagram	N/A	N/A	N/A
P575	AK Source Document Discrepancy Resolution – Mixed Waste Code Assignment for 308 Building Debris Waste	N/A	K. Peters	11/21/2003
P587	Hanford Site Solid Waste Acceptance Criteria	HNF-EP-0063, Rev. 8	J.B. Bolles	5/2003
P592	Historical Events – Reactors and Fuels Fabrication	RL-REA-2247	D.L. Neal	7/1/1965
P606	Miscellaneous Material Safety Data Sheets for Building 308	N/A	First Brands Corporation, et.al	12/19/1996
P628	Planning Data for Plutonium Finishing Plant Special Nuclear Material Inventory	WHC-SD-CP-TI-212, Rev. 0	M.W. Gibson	9/ 20/1996

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Source Document Number	Title	Document Number	Author	Date
P629	Phoenix Fuel Program Progress Report	N/A	D.D. Lanning, G.J. Busselman	N/A
P634	Plutonium Alloys and Residues at the Plutonium Finishing Plant	PUAL01, Rev. 2	N/A	N/A
P635	Plutonium Alloys Report	HNF-7619, Rev. 1	T.J. Venetz, et.al.	5/2001
P642	Plutonium Recycle Program Annual Report, Fiscal Year 1961	HW-70000	S. Goldsmith	8/11/1961
P643	Plutonium: The First 50 Years	N/A	U.S. DOE	2/6/1996
P646	Progress in Plutonium Recycle Research and Development	HW-66119	H.M. Parker, et.al	7/1/1960
P648	Pu/Al Alloys Operations	ZO-160-081, Rev. B, Change 4	J. Hillard	7/14/2004
P664	Safety Analysis Report – Plutonium Fuels Laboratory 308 Building	BNWL-CC-1906	D.D. Lanning, et.al	2/1969
P665	Safety Assessment of Fuels Development Laboratory (308 Building) in Shutdown Configuration	WHC-SD-FL-SAD-001, Rev. 0	D.S. Leach	11/1992
P672	AK Source Document Discrepancy Resolution for RLM308D.001 re: U003, C012, P014	D003	K. Peters	11/21/2003
P682	The Defense Programs Origin of Transuranic Waste at Argonne National Laboratory-West	ANL-NT-192	H.F. McFarlane	11/2001
P976	Radiotopic Characterization of Retrievably Stored Transuranic Waste Containers at the Hanford Site	WHC-SD-WM-TI-517, Rev. 1	J. P. Joyce	11/12/93
P1038	Drum Waste Processing	DO-100-058, Rev. B, Chg. 26	P.J. Sheely	06/17/2009
P1039	Overpacked Drum Waste Processing	DO-100-061, Rev. A, Chg. 20	P.J. Sheely	06/17/2009
P1044	Hanford Site Transuranic Waste Management Program Acceptable Knowledge Documentation for Retrievably Stored Contact-Handled Waste	HNF-3461, Draft, Rev. 7	R. Clinton	N/A
P1047	Attachment 4 – Acceptable Knowledge Source Document Reference List	N/A	K. Peters	11/23/2003
P1048	Fuel Pin Fabrication Operating Procedures	WHC-IP-0519, Rev. 23	D.E. Rasmussen	11/5/1990
P1049	Glovebox Bag-In and Bag-Out	G-308-1, Rev. 0	M.W. Benecke	6/19/1985
P1051	The Use of "Phoenix Fuel" for Compact Power Reactors	HW-71279	P. L. Hoffman, G. J. Busselman	10/9/1961
P1088	TRU Sorting Glovebox	WRP1-OP-0725, Rev. C, Change 20	NA	06/24/2009
P1089	TRU Loadout Gloveboxes Operation	WRP1-OP-0726, Rev. E, Change 0	NA	07/02/2009

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Source Document Number	Title	Document Number	Author	Date
P1106	One-Trip System	WHC-SD-W026-TRP-014, Rev. 0	D.T. Ruff	03/1994
P1147	Annual Report Plutonium Recycle Program, Fiscal Year 1958	HW-58000	S. Goldsmith	11/11/1958
P1155	Atlantic Richfield Hanford Company Monthly Report	ARH-LD-213	G.T. Stocking	03/23/1976
P1156	TRU and TRUM Waste Size Reduction and Repackaging	QAPP-10-01, R00	PRNW	07/20/10
P1249	Surveillance and Maintenance Plan for the 308 Building Complex (Fuels Development Laboratory)	BHI-01676, R0	J.W. Golden	05/27/2003
U003	Notes on Waste Stream Descriptions for Pu Oxide Characterization Studies	N/A	C. Delegard	N/A