ENTERED

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

DEC 20 2012

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

Subject: Review of Savannah River Site - Central Characterization Project Waste Stream Profile Form Number SR-BCLDP-HET

Dear Mr. Kieling:

The Department of Energy, Carlsbad Field Office has approved the Waste Stream Profile Form (WSPF) Number SR-BCLDP-HET, *Heterogeneous Debris Waste from the BCLDP* for the Central Characterization Project at the Savannah River Site.

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

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

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

Sincerely,

J.R. Stroble for

Jose R. Franco, Manager
Carlsbad Field Office

Enclosure

cc: w/enclosure
S. Holmes, NMED *ED
T. Kliphuis, NMED ED
RCRA Chronology Record ED
WIPP Operating Record ED
CBFO M&RC
*ED denotes electronic distribution

121231

CBFO:NTP:JRS:GL:12-0704:UFC 5900.00

bcc: w/enclosure

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M. Strum, NWP	ED
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J. Vernon, NWP	ED
V. Waldram, NWP	ED
M. Walentine, NWP	ED
J. Walker, NWP	ED
P. Gilbert, LANL	ED
S. Lott, LANL	ED
G. Lyshik, LANL	ED
C. Walker, TechLaw	ED
D. Sellmer, CTAC	ED

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Attachment 2 – CCP Waste Stream Profile Form

(1) Waste Stream Profile Number: SR-BCLDP-HET						
(2) Generator site name: Savannah River Site					(3) Generator site EPA ID: SC1890008989	
(4) Technical contact: Beverly Schrock					(5) Technical contact phone number: 575-234-7444	
(6) Date of audit report approval by New Mexico Environment Department (NMED): May 23, 2012						
(7) Title, version number, and date of documents used for WIPP-WAP Certification: CCP-PO-001, CCP Transuranic Waste Characterization Quality Assurance Project Plan, Revision 20, June 16, 2011; CCP-PO-002, CCP Transuranic Waste Certification Plan, Revision 26, July 14, 2011; CCP-PO-004, CCP/SRS Interface Document, Revision 32, October 25, 2012						
(8) Did your facility generate this waste? YES			NO	X		
(9) If no, provide the name and EPA ID of the original generator: Battelle Memorial Institute – West Jefferson North Site OHT400013892						
Waste Stream Information						
(10) WIPP ID: SR-BCLDP-HET					(11) Summary Category Group: S5000	
(12) Waste Matrix Code Group: Heterogeneous Debris Waste					(13) Waste Stream Name: Heterogeneous Debris Waste from the BCLDP	
(14) Description from the ATWIR: Heterogeneous debris waste from the D&D of Battelle Columbus Lab Building JN-4.						
(15) Defense TRU Waste: YES	X	NO				
(16) Check One: CH	X	RH				
(17) Number of SWBs[1]: 14 (17a) Number of SLB2s: NA		(18) Number of Drums: NA			(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[2]: D005, D006, D007, D008, D009, D011, F002 and F005						
(22) Applicable TRUCON Content Numbers: SQ 121						
(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-SRS-19, Revision 0, December 12, 2011, Figures 1, 2, 3 and 4						
(23B) Facility mission description: CCP-AK-SRS-19, Revision 0, December 12, 2011, Section 4.3						
(23C) Description of operations that generate waste: CCP-AK-SRS-19, Revision 0, December 12, 2011, Section 4.7						
(23D) Waste identification/categorization schemes: CCP-AK-SRS-19, Revision 0, December 12, 2011, Section 4.6.2						
(23E) Types and quantities of waste generated: CCP-AK-SRS-19, Revision 0, December 12, 2011, Section 4.6.1						
(23F) Correlation of waste streams generated from the same building and process, as applicable: CCP-AK-SRS-19, Revision 0, December 12, 2011, Section 4.6.3						
(24) Waste certification procedures: CCP-TP-030, Revision 31, November 19, 2012						
(25)Required Waste Stream Information						

(25A) Area(s) and building(s) from which the waste stream was generated CCP-AK-SRS-19, Revision 0, December 12, 2011, Section 5.1			
(25B) Waste stream volume and time period of generation: CCP-AK-SRS-19, Revision 0, December 12, 2011, Section 5.2			
(25C) Waste generating process description for each building: CCP-AK-SRS-19, Revision 0, December 12, 2011, Section 5.3			
(25D) Waste Process flow diagrams: NA			
(25E) Material inputs or other information identifying chemical/radionuclide content and physical waste form: CCP-AK-SRS-19, Revision 0, December 12, 2011, Section 5.4			
(25F) Waste Material Parameter Weight Estimates per unit of waste: See table entitled "Waste Stream SR-BCLDP-HET Waste Material Parameters" in Summation of Aspects of AK Summary Report: Waste Stream SR-BCLDP-HET			
(26) Which Defense Activity generated the waste:			
	Weapons activities including defense inertial confinement fusion		Naval Reactors development
	Verification and control technology	X	Defense research and development
	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 P056, P057, P058, P059, P060, P061, P062, P063, P064, P066, P067, P068, P070, P086, P103, P104, P105, P750 in the Summation of Aspects of AK Summary Report: Waste Stream SR-BCLDP-HET, Source Documents.			
(27C) Safety Analysis Reports: NA			
(27D) Waste packaging logs: See C057 in the Summation of Aspects of AK Summary Report: Waste Stream SR- BCLDP -HET, Source Documents.			
(27E) Test plans/research project reports: NA			
(27F) Site databases: NA			
(27G) Information from site personnel: See C004, C038, C039, C040, C041 and C057 in the Summation of Aspects of AK Summary Report: Waste Stream SR- BCLDP -HET, Source Documents.			
(27H) Standard industry documents: NA			
(27I) Previous analytical data: See C013, C051, C056, M006, P052, P074 and U021 in the Summation of Aspects of AK Summary Report: Waste Stream SR- BCLDP -HET, Source Documents.			
(27J) Material safety data sheets: See P025 in the Summation of Aspects of AK Summary Report: Waste Stream SR- BCLDP -HET, Source Documents.			
(27K) Sampling and analysis data from comparable/surrogate Waste: See C013, C051, C056 and U021 in the Summation of Aspects of AK Summary Report: Waste Stream SR- BCLDP -HET, Source Documents.			
(27L) Laboratory notebooks: NA			
Confirmation Information			
For the following, when applicable, enter procedure title(s), number(s) and date(s)			
(28)	Radiography: CCP-TP-053, Revision 12, August 22, 2012		
	Visual Examination: NA		

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

Reviewed by AK Expert: YES [X] Date: 11/29/2012

Reviewed by STR (if necessary): YES [X] N/A [ ] Date: 11/25/2012

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.

BSSchrock	Beverly Schrock	12/13/12
Signature of Site Project Manager	Printed Name	Date

NOTE: (1) The original waste stream volume consisted of 6 SWBs. However, the current waste stream volume is now 14 SWBs due to remediation and repackaging activities.

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

CHARACTERIZATION INFORMATION SUMMARY

WSPF #: SR-BCLDP-HET

Lot #: 1

TABLE OF CONTENTS

CCP Characterization Information Summary Cover Page

Waste Stream # SR-BCLDP-HET Lot #: 1

AK Expert Review: N/A Date: N/A

SPM Review: Joshua Houghton Date: 12/10/2012

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-011	Rev. 13	05/15/02	CCP Radiography Inspection Operating Procedure
CCP-TP-011	Rev. 14	07/31/03	CCP Radiography Inspection Operating Procedure
CCP-TP-011	Rev. 15	03/08/04	CCP Radiography Inspection Operating Procedure
CCP-TP-011	Rev. 16	05/02/05	CCP Radiography Inspection Operating Procedure
CCP-TP-011	Rev. 17	11/18/06	CCP Radiography Inspection Operating Procedure
CCP-TP-053	Rev. 5	11/15/06	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/08	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/09	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/29/10	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
CCP-TP-053	Rev. 12	05/22/12	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Headspace Gas Sampling and Analysis (HSG):

CCP-TP-093	Rev. 0	10/02/03	CCP Sampling of TRU Waste Containers
CCP-TP-093	Rev. 1	12/05/03	CCP Sampling of TRU Waste Containers
CCP-TP-093	Rev. 2	03/19/04	CCP Sampling of TRU Waste Containers
CCP-TP-093	Rev. 3	02/26/05	CCP Sampling of TRU Waste Containers
CCP-TP-093	Rev. 4	03/11/05	CCP Sampling of TRU Waste Containers
CCP-TP-093	Rev. 5	03/22/05	CCP Sampling of TRU Waste Containers
CCP-TP-093	Rev. 6	04/15/05	CCP Sampling of TRU Waste Containers
CCP-TP-093	Rev. 7	06/29/05	CCP Sampling of TRU Waste Containers
CCP-TP-093	Rev. 8	12/22/05	CCP Sampling of TRU Waste Containers
CCP-TP-093	Rev. 9	08/21/06	CCP Sampling of TRU Waste Containers
CCP-TP-093	Rev. 10	09/11/06	CCP Sampling of TRU Waste Containers
CCP-TP-093	Rev. 11	11/16/06	CCP Sampling of TRU Waste Containers
CCP-TP-093	Rev. 12	02/12/07	CCP Sampling of TRU Waste Containers
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-093	Rev. 16	09/07/11	CCP Sampling of TRU Waste Containers
CCP-TP-093	Rev. 17	11/20/12	CCP Sampling of TRU Waste Containers
CCP-TP-106	Rev. 0	12/06/03	CCP Headspace Gas Sampling Batch Data Report Preparation
CCP-TP-106	Rev. 1	03/31/04	CCP Headspace Gas Sampling Batch Data Report Preparation
CCP-TP-106	Rev. 2	03/03/05	CCP Headspace Gas Sampling Batch Data Report Preparation
CCP-TP-106	Rev. 3	04/15/05	CCP Headspace Gas Sampling Batch Data Report Preparation
CCP-TP-106	Rev. 4	08/21/06	CCP Headspace Gas Sampling Batch Data Report Preparation
CCP-TP-106	Rev. 5	11/18/06	CCP Headspace Gas Sampling Batch Data Report Preparation
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-175	Rev. 0	05/02/07	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
CCP-TP-175	Rev. 3	08/02/11	CCP Analysis of Gas Samples for VOCs by GC/MS

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 16	04/26/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	06/09/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/12	CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 8	03/07/02	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 9	06/06/02	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 10	06/19/02	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 11	10/24/02	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 12	04/30/03	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 13	06/27/03	CCP Reconciliation of DQOs and Reporting Characterization Data

CTS-002

CCP Characterization Information Summary Cover Page

CCP-TP-002	Rev. 14	03/29/05	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/15/05	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/06	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/08	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/09	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	08/25/10	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-002	Rev. 24	12/28/11	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 15	11/16/06	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 16	10/02/07	CCP Data Analysis for S3000, S4000, and S5000 Characterization
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-003	Rev. 19	11/02/12	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 8	08/19/02	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 9	09/26/02	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 10	10/24/02	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 11	02/05/03	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 12	03/28/03	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 13	11/18/03	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 14	11/19/04	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/05	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	08/06/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/06	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-005	Rev. 24	11/28/11	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 29	04/26/11	CCP CH TRU Waste Certification and WWIS/WDS Entry
CCP-TP-030	Rev. 30	05/21/12	CCP CH TRU Waste Certification and WWIS/WDS Entry
CCP-TP-030	Rev. 31	11/19/12	CCP CH TRU Waste Certification and WWIS/WDS Entry

WAP Certification:

CCP-PO-001	Rev. 5	02/05/03	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 6	08/11/03	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 7	01/06/04	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 8	03/15/04	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 9	01/14/05	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 10	02/24/05	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/05	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/06	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/06	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
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CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	08/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	Rev. 11	02/24/05	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 12	03/10/05	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/05	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/05	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/06	CCP Transuranic Waste Certification Plan
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CCP-PO-002	Rev. 19	05/22/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/09	CCP Transuranic Waste Certification 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	06/29/10	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-004	Rev. 18	02/09/05	CCP/SRS Interface Document
CCP-PO-004	Rev. 19	03/14/05	CCP/SRS Interface Document
CCP-PO-004	Rev. 20	11/02/05	CCP/SRS Interface Document
CCP-PO-004	Rev. 21	03/31/06	CCP/SRS Interface Document
CCP-PO-004	Rev. 22	11/16/06	CCP/SRS Interface Document
CCP-PO-004	Rev. 23	01/31/07	CCP/SRS Interface Document
CCP-PO-004	Rev. 24	06/28/07	CCP/SRS Interface Document
CCP-PO-004	Rev. 25	05/20/08	CCP/SRS Interface Document
CCP-PO-004	Rev. 26	08/26/08	CCP/SRS Interface Document
CCP-PO-004	Rev. 27	05/22/09	CCP/SRS Interface Document
CCP-PO-004	Rev. 28	12/29/10	CCP/SRS Interface Document
CCP-PO-004	Rev. 29	07/05/11	CCP/SRS Interface Document
CCP-PO-004	Rev. 30	10/17/11	CCP/SRS Interface Document
CCP-PO-004	Rev. 31	10/01/12	CCP/SRS Interface Document
CCP-PO-004	Rev. 32	10/25/12	CCP/SRS Interface Document

CIS. 003

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream # SR-BCLDP-HET Lot # 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	
BCSWB01*	SRLBC0597	SR4RTR0233	N/A	N/A	N/A	N/A	SRHSG1214	ECL12022M	N/A
BCSWB02	SRLBC0579	SR4RTR0224	N/A	N/A	N/A	N/A	SRHSG1209	ECL12016M	N/A
BCSWB02A	SRLBC0582	SRSRTR0542	N/A	N/A	N/A	N/A	SRHSG1209	ECL12016M	N/A
BCSWB02B	SRLBC0600	SRSRTR0552	N/A	N/A	N/A	N/A	SRHSG1209	ECL12016M	N/A
BCSWB02C	SRLBC0604	SRSRTR0555	N/A	N/A	N/A	N/A	SRHSG1209	ECL12016M	N/A
BCSWB02D	SRLBC0580	SRSRTR0542	N/A	N/A	N/A	N/A	SRHSG1209	ECL12016M	N/A
BCSWB02E	SRLBC0619	SRSRTR0564	N/A	N/A	N/A	N/A	SRHSG1209	ECL12016M	N/A
BCSWB03*	SRLBC0641	SR4RTR0232	N/A	N/A	N/A	N/A	SRHSG1220	ECL12034M	N/A
BCSWB04*	SRLBC0670	SR4RTR0226	N/A	N/A	N/A	N/A	SRHSG1209	ECL12016M	N/A
BCSWB04A	SRLBC0678	SRSRTR0577	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BCSWB04B	SRLBC0660	SRSRTR0573	N/A	N/A	N/A	N/A	SRHSG1209	ECL12016M	N/A

* Containers sampled to fulfill permit requirements. HSG data was used in UCL90 calculations, but containers will not be certified in this lot. Included for completeness.

Signature of Site Project Manager

Joshua Houghton
Printed Name

12/10/2012
Date

C15-004

CCP Headspace Gas UCL_{90} Evaluation Form

WSPF #: SR-BCLDP-HET **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 (ppmv)	UCL_{90} > PRQL Yes	EPA Code
Acetone	SQRT	10	10	3.74	2.31	0.96	2.73	100.00	10.00		
Benzene	Log	1	10	-0.22	-2.11	1.28	-1.55	10.00	2.30		
Bromoform	Log	0	10	-1.43	-3.40	1.33	-2.81	10.00	2.30		
Butanol	No	9	10	2.30	1.18	0.69	1.48	100.00	N/A		
Carbon Disulfide[c]	Log	3	10	-0.05	-1.63	1.16	-1.12	10.00	2.30		
Carbon Tetrachloride	Log	0	10	-0.95	-2.91	1.31	-2.34	10.00	2.30		
Chlorobenzene	Log	0	10	-0.69	-2.61	1.30	-2.04	10.00	2.30		
Chloroform	Log	0	10	-0.60	-2.56	1.32	-1.98	10.00	2.30		
Chloromethane[c]	Log	2	10	0.34	-1.27	1.37	-0.67	10.00	2.30		
Cyclohexane[a]	Log	1	10	-0.29	-2.12	1.28	-1.56	10.00	2.30		
1,1-Dichloroethane	Log	0	10	-0.36	-2.34	1.31	-1.77	10.00	2.30		
1,2-Dichloroethane	SQRT	6	10	1.18	0.72	0.28	0.84	10.00	3.16		
1,1-Dichloroethylene	Log	0	10	-0.36	-2.30	1.31	-1.73	10.00	2.30		
cis-1,2-Dichloroethylene[c]	Log	0	10	-0.36	-2.31	1.31	-1.73	10.00	2.30		
trans-1,2-Dichloroethylene	Log	0	10	-0.36	-2.31	1.32	-1.74	10.00	2.30		
1,2-Dichloropropane[c]	Log	0	10	-0.51	-2.47	1.31	-1.89	10.00	2.30		
Ethyl benzene	No	7	10	0.85	0.55	0.20	0.64	10.00	N/A		
Ethyl Ether	Log	0	10	-0.11	-2.04	1.30	-1.47	10.00	2.30		
Methanol	Log	10	10	6.04	3.12	2.23	4.09	100.00	4.61		
Methyl Ethyl Ketone	Log	7	10	0.64	-0.46	0.86	-0.09	100.00	4.61		
Methyl Isobutyl Ketone	SQRT	6	10	1.38	0.83	0.37	0.99	100.00	10.00		
Methylene Chloride	No	3	10	0.85	0.40	0.32	0.53	10.00	N/A		
1,1,2,2-Tetrachloroethane	Log	0	10	-0.95	-2.91	1.31	-2.34	10.00	2.30		
Tetrachloroethylene	Log	0	10	-0.94	-2.87	1.30	-2.30	10.00	2.30		
Toluene	Log	10	10	2.64	0.75	1.55	1.43	10.00	2.30		
1,1,1-Trichloroethane	Log	1	10	1.93	-2.37	1.89	-1.54	10.00	2.30		
Trichloroethylene	Log	4	10	1.28	-1.91	1.53	-1.24	10.00	2.30		
Trichlorofluoromethane[c]	Log	0	10	-0.60	-2.58	1.33	-2.00	10.00	2.30		
1,1,2-Trichloro-1,2,2-trifluoroethane	Log	0	10	-0.92	-2.88	1.32	-2.30	10.00	2.30		

cis-ec5

CCP Headspace Gas UCL_{90} Evaluation Form

WSPF #: SR-BCLDP-HET **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 (ppmv)	UCL_{90} > PRQL Yes	EPA Code
1,3,5-Trimethylbenzene[a]	Log	3	10	-0.73	-2.39	1.17	-1.88	10.00	2.30		
1,2,4-Trimethylbenzene[a]	Log	5	10	-0.69	-1.95	0.97	-1.53	10.00	2.30		
m/p-Xylene[b]	No	9	10	4.20	2.04	1.05	2.50	10.00	N/A		
o-Xylene	No	9	10	2.20	1.28	0.55	1.52	10.00	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] 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 UCL90 for completeness.

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.)

C35-096

Signature of Site Project Manager

Joshua Houghton
Printed Name

12/10/2012
Date

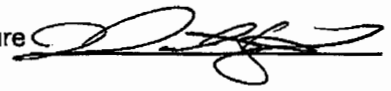
CCP Headspace Gas Summary Data

Waste Stream # SR-BCLDP-HET 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  Date 12/10/2012

CBS-007

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream #: SR-BCLDP-HET Lot #: 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.	None of the containers in this lot had prohibited items identified during RTR.	VE was not used to certify any containers in this Lot.

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 for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for the waste.

Site Project Manager Signature | Joshua Houghton Printed Name | 12/10/2012 Date

CIS-007

CCP Reconciliation with Data Quality Objectives

Waste Stream #: SR-BCLDP-HET Lot #: 1

Sampling Completeness:

NDE

Number of Valid Samples: 11 Number of Total Samples Analyzed: 11
Percent Complete: 100 (QAO is 100%)

NDA

Number of Valid Samples: 11 Number of Total Samples Analyzed: 11
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%)

CIS-009

CCP Reconciliation with Data Quality Objectives

Waste Stream #: SR-BCLDP-HET 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	N	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 HW Numbers 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.

CIS-010

CCP Reconciliation with Data Quality Objectives

Waste Stream #: SR-BCLDP-HET Lot #: 1

8	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 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

Signature of Site Project Manager | Joshua Houghton (Printed Name) | 12/10/2012 (Date)

CTS-011

Summation of Aspects of AK Summary Report: Waste Stream SR-BCLDP-HET

Overview

Waste stream SR-BCLDP-HET consists of contact-handled (CH) Transuranic (TRU) heterogeneous debris waste generated by the Battelle Columbus Laboratories Decommissioning Project (BCLDP) and stored at the Savannah River Site (SRS). The waste was generated primarily by decontamination and decommissioning (D&D) operations in the Building JN-4 Plutonium Laboratory and the Building JN-3 Research Reactor Building at the Battelle Memorial Institute (BMI) West Jefferson North Site. The Building JN-4 Plutonium Laboratory was designed for studies of metallurgical and ceramic properties of plutonium and its alloys, plutonium processing, nuclear fuels development, and other programs. D&D of the facility was conducted from 1978 to 1982. In 1992, a small amount of waste was also generated from cleanout of a hood in a laboratory room located on the second floor of the former Building JN-3 Research Reactor Building. Additional TRU waste was generated from cleanup of a contamination incident that resulted from opening a Building JN-4 drum in an area within the Building JN-1 Hot Cell Laboratory. Waste stream SR-BCLDP-HET was repackaged into Standard Waste Boxes (SWBs) in Building JN-1 in 2003 and then shipped to SRS in 2005.

Waste stream SR-BCLDP-HET was contaminated with or generated by BMI operations in support of Department of Energy (DOE) atomic energy defense research and development (R&D). Therefore, this waste stream is defense related waste.

This summation of the Acceptable Knowledge (AK) Summary Report includes information to support Waste Stream Profile Form (WSPF) number SR-BCLDP-HET for heterogeneous debris generated by the BCLDP stored at SRS. The primary source of information for this Summation is CCP-AK-SRS-19, *Central Characterization Project Acceptable Knowledge Summary Report For Contact-Handled Transuranic Waste from the Battelle Columbus Laboratories Decommissioning Project Waste Stream: SR-BCLDP-HET*, Revision 0, December 12, 2011.

Waste Stream Identification Summary

Wastes Stream Name:	Heterogeneous Debris Waste from the BCLDP
Waste Stream Number:	SR-BCLDP-HET
Dates of Waste Generation:	July 2003 – August 2003
Waste Stream Volume – Current:	14 SWBs[1]
Waste Stream Volume – Projected:	None expected
Summary Category Group:	S5000 – Debris Waste
Waste Matrix Code Group:	Heterogeneous Debris Waste
Waste Matrix Code:	S5400

[1]The original waste stream volume consisted of 6 SWBs. However, the current waste stream volume is now 14 SWBs due to remediation and repackaging activities.

TRUPACT-II Content Code: SQ 121

Annual Transuranic Waste Inventory Report (ATWIR) Identification Number: SR-BCLDP-HET

Waste Stream Description and Physical Form:

Waste stream SR-BCLDP-HET is primarily composed of organic and inorganic debris waste items. Examples of specific waste items include iron-based metals/alloys (e.g., cans, drums, gauges, filter housing, hand tools, hardware, pipe, plate, scrap, valves), aluminum foil, other metals (e.g., batteries, copper cable/fittings/tubing, lead shot), other inorganic materials (e.g., ceramic, concrete chunks, glass jars, sand), cellulosics (e.g., cardboard, cheesecloth, coveralls, paint brushes, paper, wood), rubber (e.g., bungee, gloves, hose), plastic (e.g., bags, bottles, epoxy paint chips, fiberglass, hoods, labware, sheeting, tape, tents, tubing), high efficiency particulate air (HEPA) filters, Radsorb absorbent (sodium polyacrylate homopolymer), Floor Dry absorbent (diatomaceous earth), grout powder, and mercury amalgam.

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. This waste stream was generated by D&D operations and subsequent repackaging of the waste at the BMI.

Point of Generation

Location

Waste stream SR-BCLDP-HET was generated by the BMI in West Jefferson, OH. The waste is currently stored at SRS E-Area TRU waste storage pads in Aiken, South Carolina.

Area and/or Buildings of Generation

Waste stream SR-BCLDP-HET was generated at the BMI in Building JN-4, Building JN-3, and Building JN-1.

Generating Processes

Description of Waste Generation Processes

Waste stream SR-BCLDP-HET was generated primarily during D&D of the Building JN-4 Plutonium Laboratory. The Building JN-4 Plutonium Laboratory consisted of four primary areas: old laboratory, metallographic laboratory, main laboratory, and Pu-238 laboratory. A small amount of waste was also generated from cleanout of a hood in Building JN-3. Additional TRU waste was generated from the cleanup of a contamination incident that occurred from opening a Building JN-4 drum in a cell in Building JN-1.

Glovebox Cleanout, Decontamination, and Removal

Initial physical decommissioning efforts began in January 1978 with removal of special nuclear materials, miscellaneous items, and equipment from gloveboxes and laboratory areas. Removal of glovebox items included tools, supplies, and equipment as well as fixed items such as electrical wiring. Large items were size-reduced using scissors, snips, hack saws, tubing

cutters, and small electric grinders. Sharp edges remaining after size reduction or disassembly were padded and taped. Equipment removed from gloveboxes included grinders, lathes, balances, furnaces, tools, lead bricks and shot, vises, a rolling mill, false glovebox floors, lighting fixtures, shelving, tool boxes, and assorted electrical and plumbing equipment (References C030, P033, P052, P055, U024, U029, U033).

Initially gloveboxes were to be decontaminated to allow for their disposal as low-level waste. Prior to decontamination of the first glovebox, the paint was stripped using Turco Paint Zip No. 1 or Marine Strip. After application of the stripping agent, the paint was removed with a paint brush, and the paint chips were collected in paint cans (References C038, P025, P033, P052, P053, P054, P055, P056).

Decontamination of gloveboxes was conducted using scrubbing techniques with detergents, Turco 4306 and 4512, and Turco 5865 foaming agent. Detergent foam, created from a mixture of detergent/water solution and foaming agent, was sprayed on the internal surfaces of the glovebox and allowed to stand. The glovebox surfaces were then sprayed with a fine mist of water and the wash/rinse solution. Contamination levels were evaluated using smear samples or direct assay readings after washing. This process was repeated until samples indicated no reduction in contamination levels, typically three to four washes. The wash/rinse solution was pumped to polyethylene lined 55-gallon drums for solidification with patching plaster. For highly contaminated gloveboxes, wash solution was sometimes solidified in 5-gallon cans in the glovebox following the first wash. Containers of TRU solidified wash solutions were shipped to INL for disposal and are not included in waste stream SR-BCLDP-HET (References C038, C056, P033, P053, P055, P059, P085, P087).

Evaluation of decontamination efforts determined volume reduction would be necessary for most gloveboxes. Prior to conducting volume reduction activities, contamination control measures were implemented included fixing contamination on internal glovebox surfaces, removal of glovebox from ventilation and service systems, and construction of a contamination containment tent. Contamination was fixed on glovebox surfaces by four coats of a polyurethane varnish. The glovebox gloves were replaced following the first coat, and windows were not painted until the final coat. After the final coat, the glovebox filters and exhaust lines were thoroughly painted to fix contamination (References C030, C056, P033, P054, P055, P060, P087).

Tents were constructed around gloveboxes prior to volume reduction. The tents consisted of a fiberglass-reinforced polyethylene sheet over a lumber or steel conduit frame. Joints were sealed using duct tape. The tent floor and walls were covered with blotter paper. The first activity was to remove the glovebox exhaust filters and all other piping and tubing connections, including water lines, electrical conduit, and nitrogen lines. The filters and piping were removed, the ends of the piping sealed with plastic sheets or bags, rubber stoppers, or tape, bagged-out, and then triple-bagged. Glovebox windows were taped and wrapped with polyethylene and broken to allow for bag-out. Gloveboxes were cut into pieces of sufficient size for packaging into 55-gallon drums or M-III bins (i.e., steel boxes) using portable nibblers, grinding wheels, and various types of saws. Sharp edges and corners of large glovebox sections were padded with tape or fiberglass-reinforced polyethylene sheet, and packaged into four layers of polyethylene drum liners. Water used as a wetting agent to minimize airborne contamination was applied using polyethylene squeeze bottles. Excess water was collected with paper wipes which were packaged in 1-gallon paint cans (References C038, P054, P055, P061, P062, P063, P064, P087).

Following size-reduction of the glovebox, debris on the tent floor was collected and the exhaust HEPA filters in the tent were changed. The floor and internal tent surfaces were sprayed with water and wiped with blotter paper. Contamination remaining on the tent may also have been painted. The tent layers were dismantled from the inside out and double-bagged for disposal (References P054, P064).

Auxiliary System Decontamination and Removal

Following removal of the gloveboxes, decontamination of the auxiliary systems was completed in early 1980. Most of these were located between the building roof and suspended ceiling. Electrical alarms were disconnected and the auxiliary systems, including ceiling tiles and framework, glovebox exhaust systems, and gas and liquid supply lines, were removed from the laboratories. Ceiling tiles were collected in polyethylene bags then wrapped in polyethylene sheet. Liquid lines were drained, and piping, conduits, supports, and wire were removed, cut to convenient lengths, sharp ends covered with tape, and bundled. Each bundle was wrapped in fiberglass-reinforced polyethylene plastic sheet secured with duct tape. Ducting from glovebox exhaust systems was bundled or cut longitudinally and stacked. Material classified as TRU waste was packaged in M-III bins (References P033, P052, P066).

Contaminated Drain Lines and Holding Tank Removal

Sampling and surveys of soil under the drainage trenches indicated contamination with higher levels under the trench tile joints. Soil adjacent to the underground sections of drain lines was also sampled and removed as necessary. Drain pipes were cut into four foot sections. There was some sludge buildup but no liquids were observed. The pipe ends were covered with plastic, the pipe was triple-bagged, and then packaged into M-III bins. A motor and pump was part of the drainage system. Part of the building structure was removed to facilitate excavation of the autoclave, autoclave foundation, and the wastewater holding tanks. Core samples were taken around the holding tanks and autoclave which identified contamination. Further excavation was done to remove the concrete autoclave slab and contaminated soil beneath. The contaminated soil was packaged into drums (not included in waste stream SR-BCLDP-HET) (References C030, C038, P033, P055, P069, P074).

Laboratory Interior Surface Decontamination

Decontamination of the facility structure was conducted following removal of the gloveboxes and auxiliary systems. Various methods were implemented as necessary to decontaminate the laboratory surfaces. Combinations of techniques including detergent cleaning, commercial decontamination products, and sandblasting were utilized during initial operations as well as spot operations to remove contamination identified from post-action surveys (References C038, P052, P069, P074, P087).

Contamination Incident Cleanup and Waste Repackaging

In June 2000, an initial attempt was made to volume-reduce the Building JN-4 D&D waste. When operations began, one legacy drum was opened in an area known as the *Charpy Cell* in Building JN-1. As a result of a release of contamination after opening the drum, the cell became highly contaminated and the sorting attempt was abandoned. The subsequent cell cleanup effort resulted in the generation of six drums of TRU waste referred to as *Recovery Drums* (Reference P750).

The legacy CH-TRU waste from D&D had been in storage in Building JN-3. During the planning for the waste repackaging, a 55-gallon drum was discovered that contained waste generated in Building JN-3. BCLDP personnel determined that this waste was removed in 1992 from a hood in a laboratory room located on the second floor of Building JN-3. Gamma spectroscopy of this drum identified Am-241. Real-time radiograph (RTR) of this drum identified various labware (e.g., flasks, pipettes, planchets, tweezers, probes) as well as large bottles containing a dry dense powder. BCLDP personnel packaged this drum into an SWB with other TRU waste in this waste stream (References P750, U029).

Legacy waste from D&D of Building JN-4 during the late-1970s and early-1980s, and the waste from cleanup of the contamination incident performed in June 2000 were repackaged into a compliant and shippable configuration. This repackaging effort was conducted in Building JN-1 in 2003. TRU waste *Recovery Drums* and M-III bins were opened, and each bag/parcel of waste was removed, weighed, and visually inventoried (the bags were not opened). The bags/parcels of waste were then placed directly into four lined SWBs. Based on previous RTR, two of the legacy drums were known to contain aerosol cans or observable liquid. These two drums were opened, and each bag/parcel of waste was removed, weighed, and visually inventoried. The bags were not opened unless they contained prohibited items. The aerosol cans were removed, decontaminated with Spray Nine and rags, and managed as low-level waste. Liquids were absorbed using a mixture of Radsorb and diatomaceous earth, bagged, and packaged with the legacy TRU waste. The bags/parcels of legacy waste were placed into new 55-gallon TRU waste drums. The two new 55-gallon drums and the remaining six 55-gallon drums of legacy TRU waste were loaded (four each) into two SWBs (Reference P750).

Hand tools, rags, Spray Nine, and ALARA 1146 strippable coating were used as necessary for decontamination during repackaging operations. Decontamination waste was also bagged and placed into an SWB with the legacy waste. A mixture of Radsorb and diatomaceous earth was added to wet decontamination waste (Reference P750).

Waste Stream Material and Chemical Inputs

The following table identifies the Resource Conservation and Recovery Act (RCRA) toxicity characteristic and listed constituents identified in this waste stream.

Toxicity Characteristic and Listed Constituents in Waste Stream SR-BCLDP-HET

Chemical/Compound	Use/Source	EPA Hazardous Waste Number	Reference
Barium	Hazardous constituent in leaded glass, and component of paint removed from gloveboxes and used to fix contamination.	D005	C013, C056, P054, P070, P073, U021
Benzene	Component of paint strippers and thinners used to decontaminate gloveboxes.	F005	C056, P053, P054, P055, P060, P070, P073
Cadmium	Component of paint removed from gloveboxes and used to fix contamination.	D006	C056, P054, P070, P073
Chromium	Component of paint removed from gloveboxes and used to fix contamination.	D007	C056, P054, P070, P073

Lead	Shielding in bricks, sheets, lead lined gloves, leaded glass, and lead shot. Component of brass plate. Component of paint removed from gloveboxes and used to fix contamination.	D008	C056, P033, P054, P055, P070, P073, U029
Mercury	Sample density determinations, fluorescent light bulbs, thermometers, limit switches on gloveboxes.	D009	C041, C051, P033, P070
Methylene chloride	Component of paint strippers and thinners (e.g., Marine Strip, Turco Paint Zip No. 1) used to decontaminate gloveboxes.	F002	C038, C056, P025, P053, P054, P055, P056, P060, P070, P073
Methyl ethyl ketone	Solvent used in sample preparation and analysis.	F005	C039
Silver	Metallographic photography.	D011	C056, P073
Toluene	Component of paint strippers and thinners used to decontaminate gloveboxes.	F005	C056, P053, P054, P055, P060, P070, P073
Trichloroethylene	Solvent used in sample preparation and analysis.	F002	C039

RCRA Determinations

Historical Waste Management

Waste stream SR-BCLDP-HET has historically been managed in accordance with the generator site requirements and in compliance with the requirements of the South Carolina Department of Health and Environmental Control. The waste was generated at Battelle prior to implementation of the RCRA regulations. When the waste was repackaged into SWBs in 2003, BCLDP did not assign EPA hazardous waste numbers and shipped the waste to SRS as nonhazardous waste (References C031, M004, M005). However, a review of available AK documentation to identify chemical usage and potentially hazardous materials that may have been introduced into the waste stream, including those identified in Materials Safety Data Sheets (MSDS) information for commercial products, has determined that this waste stream is RCRA-hazardous.

Hazardous Waste Determinations

Ignitability, Corrosivity, Reactivity

Ignitability

A solid waste exhibits the characteristic of ignitability as defined in 40 CFR 261.21 if it has any of the following properties: 1) It is a flammable liquid (flash point less than 60°C), 2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical change, 3) It is an ignitable compressed gas, or 4) It is an oxidizer (a substance such as a chlorate, permanganate, inorganic peroxide, or a nitrate, that yields oxygen readily to stimulate the combustion of organic matter).

Ignitable liquids used included acetone, alcohols (e.g., butyl alcohol, ethyl alcohol), hexane, and methyl ethyl ketone. Oxidizing compounds such as nitric acid and hydrofluoric acid were also

used. However, liquids, ignitable compressed gases, pyrophorics, and oxidizers were not permitted in WIPP certified waste (References C038, C039, P025, P070, U029). Therefore, waste stream SR-BCLDP-HET is not assigned EPA hazardous waste number D001.

Corrosivity

A solid waste exhibits the characteristic of corrosivity as defined in 40 CFR 261.22 if it has any of the following properties: 1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, or 2) It is a liquid and corrodes steel at a rate greater than 0.25 inches per year.

Corrosive liquids used included acids (e.g., hydrochloric, hydrofluoric, nitric, sulfuric) and unspecified bases. Liquids were not permitted in WIPP certified waste (References C039, P033, P070, U029). Therefore, these corrosive liquids will not be present in this waste stream. Therefore, waste stream SR-BCLDP-HET is not assigned EPA hazardous waste number D002.

Reactivity

A solid waste exhibits the characteristic of reactivity as defined in 40 CFR 261.23 if it has any of the following properties: 1) It is normally unstable and readily undergoes violent change without detonating, 2) It reacts violently with water, 3) It forms potentially explosive mixtures with water, 4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment, 5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment, 6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement, 7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure, or 8) It is a forbidden explosive, or Class A or Class B explosive as defined in 49 CFR 173, *Shippers – General Requirements for Shipments and Packagings*.

Reactives used in Building JN-4 included lithium metal, sodium metal, and sodium potassium. Work practices required these metals be dissolved in butyl alcohol prior to disposal. Liquids were not permitted in WIPP certified waste (References P025, P070). Therefore, waste stream SR-BCLDP-HET is not assigned EPA hazardous waste number D003.

The containers in the waste stream will be evaluated in accordance with the WIPP-WAP using RTR or visual examination (VE) prior to shipment to ensure the waste is not ignitable, reactive, or corrosive.

Toxicity Characteristic

Waste stream SR-BCLDP-HET exhibits the characteristic of toxicity for metals as defined in 40 CFR 261.24. The following toxicity characteristic metals were used and contaminate the materials in this waste stream.

- Paint chips, which are present in this waste stream, were generated from paint stripping and decontamination of gloveboxes and laboratory surfaces such as floors and walls. The specific identity of the paint is unknown; however, paint of this time period may contain several metals including barium, cadmium, chromium, and lead (References C056, P054, P070, P073).

- Barium is also a component of leaded glass (References C013, U021).
- Lead shielding present in this waste stream includes bricks, sheets, shot, leaded gloves, and leaded glass. Some brass alloys also contain lead (References C056, P033, P055, P073, U029).
- Mercury was used for density determinations of samples, in limit switches on glovebox atmosphere controls, and in laboratory thermometers. Fluorescent light bulbs contain mercury above the regulatory level and were identified in gloveboxes prior to their removal (References C041, C051, P033, P070).
- Silver may be present from photographic operations conducted in the Metallographic Laboratory. Fixer and developer solutions contain silver above the regulatory level (References C056, P073).

Since analytical data are not available for this debris waste stream to demonstrate barium, cadmium, chromium, lead, mercury, and silver are less than the toxicity characteristic regulatory level, EPA hazardous waste numbers D005, D006, D007, D008, D009, and D011 are assigned to this waste stream in accordance with RCRA.

Waste stream SR-BCLDP-HET does not exhibit the characteristic of toxicity for organic compounds as defined in 40 CFR 261.24.

Benzene, methyl ethyl ketone, and trichloroethylene were used in Building JN-4. These compounds were used as solvents and are therefore regulated as listed hazardous wastes. Therefore, EPA hazardous waste numbers D018, D035, and D040 are not assigned to this waste stream.

Listed Waste

F-Listed Waste

Waste stream SR-BCLDP-HET is an F-listed hazardous waste because the debris wastes were mixed with hazardous wastes from non-specific sources as listed in 40 CFR 261.31. The following F-listed constituents were used and contaminate the materials in this waste stream.

- Marine Strip and Turco Paint Zip No. 1, both of which contain methylene chloride, were used for stripping paint from decommissioned gloveboxes. Paint, including strippers and thinners, may contain methylene chloride. Paint was applied to gloveboxes and laboratory surfaces for contamination control. Polyurethane varnish, which may contain methylene chloride, was used as a contamination fixative applied prior to volume reduction activities. Trichloroethylene was historically used as a solvent for sample preparation and analysis (References C038, C039, C056, P025, P053, P054, P055, P056, P060, P070, P073).
- Paint, including strippers and thinners, may contain toluene. Paint was applied to gloveboxes and laboratory surfaces for contamination control. Polyurethane varnish, which may contain toluene, was used as a contamination fixative applied prior to volume reduction activities. Methyl ethyl ketone was historically used as a solvent for sample preparation and analysis (References C039, C056, P053, P054, P055, P060, P070, P073).

Therefore, waste stream SR-BCLDP-HET is assigned EPA hazardous waste numbers F002 and F005 in accordance with RCRA.

The EPA has provided a regulatory clarification that the F001-listing is only appropriate when the listed solvents are used in a large-scale degreasing operation such as cold cleaning or vapor degreasing on an industrial scale. Large-scale degreasing operations were not historically conducted, and waste stream SR-BCLDP-HET was generated from D&D operations. Therefore, this waste stream is not assigned EPA hazardous waste number F001.

The F003-listed solvents acetone, butyl alcohol, ethyl benzene, methanol, and xylene were identified as potentially present in this waste stream as contaminants of debris waste (References C056, P053, P054, P055, P060, P070, P073). However, F003-listed waste is listed solely for ignitability, and this waste stream does not exhibit the characteristic of ignitability because the solvents are not in liquid form. Therefore, this waste stream is not an F003-listed hazardous waste.

K-Listed Waste

Waste stream SR-BCLDP-HET does not contain hazardous waste from the specific sources in 40 CFR 261.32 and therefore is not a K-listed waste.

P- and U-Listed Waste

Waste stream SR-BCLDP-HET does not contain a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue or spill residue thereof as defined in 40 CFR 261.33. Based on the AK documentation reviewed, there is no evidence that unused commercial products were disposed of in TRU waste drums (References M004, P100). Consequently, P- and U- listed EPA hazardous waste numbers are not assigned to this waste stream.

Hydrofluoric acid was used historically for sample preparation and analysis, but it would have been used for its intended purpose and not discarded unused (Reference C039). Therefore, EPA hazardous waste number U134 is not assigned to this waste stream.

Beryllium was not identified in AK documentation and will not be present in this waste stream. Therefore, EPA hazardous waste number P015 is not assigned to this waste stream.

Polychlorinated Biphenyls

Waste stream SR-BCLDP-HET does not contain polychlorinated biphenyls (PCBs) greater than 50 ppm, and therefore is not regulated as a Toxic Substance Control Act (TSCA) waste under 40 CFR 761.

Common PCB items include fluorescent light ballasts and oil-filled equipment such as electrical transformers, capacitors, and hydraulic equipment. These items were not identified in the containers in this waste stream. According to Fluor Hanford container data sheets, PCBs are not included in this waste stream (Reference M004).

Prohibited Items

Previous RTR conducted at Battelle in 2000 identified liquids and empty unpunctured aerosol cans in waste stream SR-BCLDP-HET (Reference U029). These prohibited items were supposed to have been removed in 2003 during waste repackaging at Battelle (Reference M005). However, RTR quick-scans were performed on the six SWBs at SRS which identified liquids, unpunctured aerosol cans with and without liquid, a sealed/pressurized container greater than four liters, and impenetrables due to the presence of leaded gloves and absorbent (Reference M006).

Two of the SWBs each contain four 55-gallon drums. Two of these drums contain approved filter vents, and the other six drums have holes punched in the lids. However, the RTR quick-scans performed on the SWBs indicate sealed containers greater than four liters in BCSWB05 and BCSWB06 because the filter vents and holes in the lids could not be verified (Reference M006).

Certified RTR and/or VE are performed by CCP to ensure liquids do not exceed the amounts allowed by the WIPP-WAP and to ensure the absence of ignitable compressed gases and explosives. Any container identified with liquids in excess of the amounts allowed by the WIPP-WAP, or having unpunctured aerosol cans, compressed gas cylinders, or explosives will be segregated from the waste stream and will not be eligible for disposal at WIPP until the prohibited materials are removed and/or remediated (References P103, P104, P105).

Method for Determining Waste Material Parameter Weights per Unit of Waste

The waste material parameter weight estimates for waste stream SR-BCLDP-HET are based on SWB container data sheets and Operation Safety Requirement (OSR) 29-90 forms. Waste material type weights and weight percentages are included on SWB container data sheets completed by BCLDP personnel. These weights were transferred to the OSR 29-90 forms by SRS personnel and re-categorized as needed. For example, BCLDP may have provided separate estimates for cellulosics, cloth, paper, and wood. SRS combined these into cellulosics as a single waste material category on the 29-90 (Reference M004).

The BCLDP included the SWB plastic liner as plastic packaging. Also, the wastes in containers BCSWB05 and BCSWB06 are packaged within 55-gallon drums inside the SWB. The BCLDP included the drums as steel packaging. When SRS transferred the data to the OSR 29-90, they included the plastic liner under plastic waste materials and the steel drums as iron-based metal (Reference M004). A statistical analysis of the data was performed, the results of which are presented in the Waste Stream SR-BCLDP-HET Waste Material Parameters table.

Waste Stream SR-BCLDP-HET Waste Material Parameters

Waste Material Parameter	Weight Percent	Weight Percent Range
Iron-based Metals/Alloys	48.7%	6.3% – 72.3%
Aluminum-based Metals/Alloys	0.8%	0.0% – 4.3%
Other Metals	0.3%	0.0% – 1.2%
Other Inorganic Materials	12.8%	0.0% – 43.3%
Cellulosics	9.1%	1.2% – 18.4%
Rubber	3.7%	0.0% – 13.5%
Plastics (waste materials)	21.9%	3.6% – 53.1%
Organic Matrix	0.6%	0.0% – 5.7%
Inorganic Matrix	2.1%	0.0% – 8.4%
Soils/Gravel	0.0%	0.0% – 0.0%

List of Any AK Sufficiency Determinations Requested for the Waste Stream

There are no AK sufficiency determination requests for this waste stream.

Transportation

This waste stream and its chemical constituents have been reviewed for consistency with the listed TRUCON code and they are consistent.

Beryllium

Beryllium will not be present in amounts greater than 1% by weight of the waste in each payload container.

Radionuclide Information

The values reported in the Waste Stream SR-BCLDP-HET Radiological Characterization table, are based on generator data reported on the Fluor Hanford Container Data Sheet compiled by BCLDP personnel for each SWB (Reference M004). To determine overall isotopic ratios for the waste stream as a whole, the total gram value for each individual isotope was divided by the total mass of all radioactive constituents in the waste stream and converted to a percentage. This result is listed as "Total Radionuclide Wt%." To determine the radionuclide wt% range for individual containers, the radiological mass in each container in the waste stream was summed. The mass of each individual isotope in a container was divided by the total radiological mass for that container and converted to a percentage. The minimum and maximum results are listed as "Radionuclide Wt% Range for Individual Containers." The same process was applied to determine "Total Radionuclide Curie Percent (Ci%)" and "Radionuclide Ci% Range for Individual Containers." The two most prevalent radionuclides by mass are Pu-238 and Pu-239.

Waste Stream SR-BCLDP-HET Radiological Characterization

Isotope	Total Radionuclide Wt%[1]	Radionuclide Wt% Range for Individual Containers[2]	Total Radionuclide Ci%[3]	Radionuclide Ci% Range for Individual Containers[2]	Suspected Present (Yes/No)
WIPP Required Radionuclides					
Am-241	0.85%	0.02% - 2.28%	0.35%	Trace[4] - 4.45%	Yes[5]
Pu-238	**46.95%**	0.04% - 88.82%	95.49%	0.95% - 99.86%	Yes
Pu-239	**45.94%**	10.23% - 86.38%	0.34%	0.04% - 7.01%	Yes
Pu-240	5.86%	0.67% - 11.76%	0.16%	0.01% - 3.49%	Yes
Pu-242	0.11%	0.01% - 0.22%	Trace[4]	Trace[4] - Trace[4]	Yes
U-233	Not reported				Yes[6]
U-234	Not reported				Yes[7,8]
U-238	Not reported				Yes[8]
Cs-137	Not reported				Yes[9]
Sr-90	Not reported				Yes[9]
Additional Radionuclides					
Pu-241	0.30%	0.01% - 0.63%	3.67%	0.08% - 84.11%	Yes[5]
Np-237	Not reported				Yes[10]
U-235	Not reported				Yes[8]

1. This listing indicates the total wt% of each radionuclide over the entire waste stream.
2. This listing is the percent range of each radionuclide on a container-by-container basis.
3. This listing indicates the total activity (curie) percent of each radionuclide over the entire waste stream.
4. Trace indicates less than 0.01 percent.
5. Am-241 is present from the decay of Pu-241. Due to the relatively short half-life of Pu-241, the Am-241 values may be greater than reported in this table, and the Pu-241 values may be less than reported in this table.
6. U-233 was not reported in generator data, and no specific use in Building JN-4 was identified. However, a procedures manual for the Building JN-4 Plutonium Laboratory identified U-233 as allowed in the facility (Reference P073).
7. U-234 was not reported in generator data but will be present from decay of Pu-238. U-234 is also a component of enriched uranium.
8. U-234, U-235, and U-238 were not reported in generator data but are potentially present as components of enriched uranium.
9. Cs-137 and Sr-90 were not reported in generator data but are potentially present in trace amounts as un-separated fission products.
10. Np-237 was not reported in generator data but is potentially present from decay of Am-241.

Payload management will not be utilized for this waste stream.

Source Documents

Tracking Number	Document Title
C004	Interview Record of Harley Toy and George Kirsch, BCL, conducted by Kevin Peters.
C013	Internal correspondence from D. L. Kidd to A. A. Church. "Status of TCLP Analysis on Leaded Gloves and Leaded Glovebox Windows."
C030	Monthly/Quarterly BCL Letter Reports to COO 1978 – 1982.
C031	Internal correspondence from Harley L. Toy to Steve Layendecker. "Disposition of 30 g of Pu 238 and 239 Presently Held Under License SNM-7."
C032	Letter from Joseph Dettorre to James Fletcher, DOE Chicago Operations and Regional Office.
C038	Interview Record of Larry Stickel and George Kirsch, conducted by Kevin Peters and Scott Smith. "Source and Components of Waste From Building JN-4."
C039	Interview Record of J.B. Williamson, conducted by Kevin Peters and Scott Smith. "Historical Operations Conducted in JN-4."
C040	Interview Record of David Freas, conducted by Kevin Peters and Scott Smith. "Historical Operations in Building JN-4."
C041	Interview Record of William Pardue, conducted by Scott Smith. "Historical Operations in Building JN-4."
C051	Letter to AK Record authored by Scott Smith. "TCLP Analysis of Incandescent Fluorescent and Mercury Vapor Light Bulbs."
C056	Letter to AK Record authored by Scott Smith. "RCRA Hazardous Constituents in Paint and Paint Related Products."
C057	Telephone Interview Record of Scott Kitts and George Kirsch, conducted by Kevin Peters. "Discussions about JN-4 Waste Stored in JN-3."
DR020	Attachment 11 - Acceptable Knowledge Source Document Discrepancy Resolution – Origin of Waste in Waste Stream SR-BCLDP-HET
DR021	Attachment 11 - Acceptable Knowledge Source Document Discrepancy Resolution – Radionuclides in Waste Stream SR-BCLDP-HET
M004	SRS Transuranic Waste Container Characterization Forms and Associated Battelle Container Paperwork for CH-TRU Waste Generated by the BCLDP
M005	Request for Deviation to SRS Waste Acceptance Criteria Manual, Battelle Columbus Laboratories
M006	Non-Drum Container Prohibited Item Data Sheets (RTR Quick-Scans) for Battelle Standard Waste Boxes.
P025	Miscellaneous Materials Safety Data Sheets (MSDSs).
P027	Battelle Columbus Laboratory Decommissioning Project. West Jefferson Category 1 and 3 Low-Level Waste Summary.
P033	Decontamination of Battelle Columbus' Plutonium Facility.

Tracking Number	Document Title
P034	Finding of No Significant Impact and Environmental Assessment. Battelle Columbus Laboratories Decommissioning Project.
P052	Plan for Fully Decontaminating The Battelle Plutonium Laboratory.
P053	Topical Report on Decontamination of Plutonium-Contaminated Glove Boxes.
P054	Topical Report on Volume Reduction Experiment (I) At Battelle's Plutonium Facility.
P055	Fiscal Year 1978 Summary Report on Decontamination Of Battelle-Columbus' Plutonium Facility.
P056	Quality Assurance Document. Stripping Paint From The Interior Of Gloveboxes.
P057	Quality Assurance Document. Loading Of TRU-Contaminated Waste In DOT 7A Steel Boxes (ANL-M-III).
P058	Quality Assurance Document. Retrievable TRU-Contaminated Waste Packaging In Molded Polyethylene-Lined DOT 17C Steel Drums.
P059	Quality Assurance Document. Detergent Cleaning And Rinsing Of The Interior Of Gloveboxes.
P060	Quality Assurance Document. Fixation Of Residual Radioactive Contamination On Glovebox Interior Surfaces.
P061	Quality Assurance Documents. Glovebox Volume Reduction Sectioning Procedures. Disconnection Of Gloveboxes From Stands.
P062	Quality Assurance Document. Handling And Packaging Of Glovebox Sections For Disposal.
P063	Quality Assurance Document. Removal And Packaging Of Glovebox Exhaust Filters.
P064	Quality Assurance Documents. Construction Of Glovebox Volume Reduction Tents. Dismantling Of Glovebox Volume Reduction Tent.
P066	Quality Assurance Documents. Ceiling Tile and Supporting Framework Removal and Packaging As Low Level Radioactive Waste. Glovebox Exhaust Systems Removal And Packaging As Low Level Radioactive Waste. Gas And Liquid Supply And Electrical Systems Removal And Packaging As Low Level Radioactive Waste.
P067	Quality Assurance Documents. Preparation Of Items To Be Assayed Using The Random Source Interrogation System. Operation Of The Random Source Interrogation System.
P068	Quality Assurance Document. Operation Of The Davidson 1056 Multichannel Analyzer For Assaying Contaminated Gloveboxes.
P069	Environmental Assessment Decommissioning And Decontamination Program Battelle Plutonium Facility.

Tracking Number	Document Title
P070	Renewal Application For Combined Special Nuclear Material And Byproduct License. Section 2. Plutonium Laboratory.
P073	Plutonium Procedures Manual.
P074	Post-Remedial-Action Radiological Survey Report For The Plutonium Facility Of The Battelle Memorial Institute Columbus Division West Jefferson Complex West Jefferson, Ohio.
P085	Content Code Assessments For INEL Contact-Handled Stored Transuranic Wastes.
P086	Quality Assurance Document. Standards Preparation For Random Driver Plutonium Monitor Calibration (Standards Pu-RDS-1, -2, -3, -4).
P087	Idaho National Engineering Laboratory Stored Transuranic Waste Characterization. Non-radiological Hazard Identification.
P100	Acceptable Knowledge Document for the Battelle Columbus Laboratories Building JN-4 Plutonium Laboratory, Advanced Mixed Waste Treatment Project.
P101	Advanced Mixed Waste Treatment Project Waste Stream Profile Form.
P102	Acceptable Knowledge Summary Report for Battelle Columbus Laboratory Mixed Transuranic Debris.
P103	TRU Drum Repackaging.
P104	Absorbing Containerized Liquids.
P105	TRU Waste Container Remediation.
P750	Work Instruction, Repackaging of the JN4 Plutonium Waste and Training Documentation.
U004	Buildings JN-1, JN-2, and JN-3 Summaries.
U021	TCLP metals data for leaded glass.
U024	Removal Of Special Nuclear Materials From The Plutonium Laboratory.
U029	Real-Time Radiography Data for 11 containers of Battelle-Columbus Waste.
U030	Draft Programmatic Environmental Impact Statement for Accomplishing Expanded Civilian Nuclear Energy Research and Development and Isotope Production Missions in the United States, Including the Role of the Fast Flux Test Facility.
U031	Description of Battelle Standard Waste Boxes
U032	Building JN-4 Plutonium Laboratory Acceptable Knowledge Document
U033	Acceptable Knowledge for Contact-Handled Transuranic Waste
U722	Transuranic Waste Defense Determination Form