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

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NMED
Hazardous Waste Bureau

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 Idaho National Laboratory - Central Characterization Program Waste Stream Profile Form Number ID-SRP-S3000, *SRP Combined Sludge Waste*

Dear Mr. Kieling:

The Department of Energy, Carlsbad Field Office has approved the Waste Stream Profile Form (WSPF) Number ID-SRP-S3000, *SRP Combined Sludge Waste* for the Central Characterization Program at the Idaho National Laboratory.

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,

Jose R. Franco, Manager
Carlsbad Field Office

Enclosure

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

140235

CBFO:NTP:JRS:PG:14-1849:UFC 5900.00

Attachment 2 – CCP Waste Stream Profile Form

(1) Waste Stream Profile Number: ID-SRP-S3000							
(2) Generator site name: Idaho National Laboratory					(3) Generator site EPA ID: ID4890008952		
(4) Technical contact: Rich Kantrowitz					(5) Technical contact phone number: 575-234-7511		
(6) Date of audit report approval by New Mexico Environment Department (NMED): March 11, 2013							
(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 21, May 31, 2013; CCP-PO-002, CCP Transuranic Waste Certification Plan, Revision 27, May 31, 2013; CCP-PO-024, CCP/INL Interface Document, Revision 14, June 28, 2013							
(8) Did your facility generate this waste?	YES		NO	X			
(9) If no, provide the name and EPA ID of the original generator: Rocky Flats Environmental Technology Site - CO7890010526							
Waste Stream Information							
(10) WIPP ID: None[1]					(11) Summary Category Group: S3000 – Homogeneous Solids		
(12) Waste Matrix Code Group: Solidified Inorganics and Solidified Organics					(13) Waste Stream Name: SRP Combined Sludge Waste		
(14) Description from the ATWIR: Waste Stream ID-SRP-S3000 consists of sludge waste generated from repackaging Rocky Flats inorganic and organic sludge wastes in the Sludge Repackage Project.							
(15) Defense TRU Waste:	YES	X	NO				
(16) Check One:	CH	X	RH				
(17) Number of SWBs: NA (17a) Number of SLB2: NA	(18) Number of Drums: 7966 55-gallon				(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.							
(21) List applicable EPA Hazardous Waste Numbers: D004, D005, D006, D007, D008, D009, D010, D011, D022, D026, D027, D028, D029, D030, D032, D034, D036, D037, F001, F002, F005, F006, F007 and F009							
(22) Applicable TRUCON Content Numbers: ID111/ID211, ID112/ID212, ID132/ID232							
(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-INL-026, Revision 0, November 18, 2013, Figures 1, 2, 3 and 4							
(23B) Facility mission description: CCP-AK-INL-026, Revision 0, November 18, 2013, Section 4.3							
(23C) Description of operations that generate waste: CCP-AK-INL-026, Revision 0, November 18, 2013, Section 4.7							
(23D) Waste identification/categorization schemes: CCP-AK-INL-026, Revision 0, November 18, 2013, Section 4.6.3							
(23E) Types and quantities of waste generated: CCP-AK-INL-026, Revision 0, November 18, 2013, Section 4.6.1							
(23F) Correlation of waste streams generated from the same building and process, as applicable: CCP-AK-INL-026, Revision 0, November 18, 2013, Section 4.6.2							
(24) Waste certification procedures: CCP-TP-030, Revision 33, November 19, 2013							
(25) Required Waste Stream Information							
(25A) Area(s) and building(s) from which the waste stream was generated: CCP-AK-INL-026, Revision 0, November 18, 2013, Section 5.1							

(25B) Waste stream volume and time period of generation: CCP-AK-INL-026, Revision 0, November 18, 2013, Section 5.2			
(25C) Waste generating process description for each building: CCP-AK-INL-026, Revision 0, November 18, 2013, Section 5.3			
(25D) Waste Process flow diagrams: CCP-AK-INL-026, Revision 0, November 18, 2013, Figures 5 and 6			
(25E) Material inputs or other information identifying chemical/radionuclide content and physical waste form: CCP-AK-INL-026, Revision 0, November 18, 2013, Section 5.4			
(25F) Waste Material Parameter Weight Estimates per unit of waste: See Table entitled "Waste Stream ID-SRP-S3000 Waste Material Parameters" in Summation of Aspects of AK Summary Report: Waste Stream ID-SRP-S3000.			
(26) Which Defense Activity generated the waste:			
X	Weapons activities including defense inertial confinement fusion		Naval reactors development
	Verification and control technology		Defense research and development
	Defense nuclear waste and materials by-products management		Defense nuclear materials production
	Defense nuclear materials security and safeguards and security investigations		
(27) Supplemental Documentation:			
(27A) Process design documents: NA			
(27B) Standard operating procedures: See P706, P008, P014, P026, P043, P063, P064, P501, P502, P503, P505, P535, P536, P545, P546, P547 and P707 in the Summation of Aspects of AK Summary Report: Waste Stream ID-SRP-S3000, AK Source Documents			
(27C) Safety Analysis Reports: NA			
(27D) Waste packaging logs: See U040, U043, U059 and U069 in the Summation of Aspects of AK Summary Report: Waste Stream ID-SRP-S3000, AK Source Documents			
(27E) Test plans/research project reports: See D022, P002, P167, P178, P179, P180, P181, P182, P183, P184, P185, P186, P187, P188, P189, P190, P191, P192, P193, P194, P195, P196, P197, P198, P199, P200, P201, P534, P538 and U010 in the Summation of Aspects of AK Summary Report: Waste Stream ID-SRP-S3000, AK Source Documents			
(27F) Site databases: See U092 in the Summation of Aspects of AK Summary Report: Waste Stream ID-SRP-S3000, AK Source Documents			
(27G) Information from site personnel: See C134, C137, C154, C159, C170, C171, C184, C185, C515 and P016 in the Summation of Aspects of AK Summary Report: Waste Stream ID-SRP-S3000, AK Source Documents			
(27H) Standard industry documents: See D009, P717, P718 and U518 in the Summation of Aspects of AK Summary Report: Waste Stream ID-SRP-S3000, AK Source Documents			
(27I) Previous analytical data: See D005, P015, P016, P033, P507, P512, P701, P709, P719, P720, U098 and U517 in the Summation of Aspects of AK Summary Report: Waste Stream ID-SRP-S3000, AK Source Documents			
(27J) Material safety data sheets: See M701, M702, M703, M704, M705, M706, P084, P091, P142, P517 and P518 in the Summation of Aspects of AK Summary Report: Waste Stream ID-SRP-S3000, AK Source Documents			
(27K) Sampling and analysis data from comparable/surrogate Waste: See U010 in the Summation of Aspects of AK Summary Report: Waste Stream ID-SRP-S3000, AK Source Documents			
(27L) Laboratory notebooks: NA			

Confirmation Information	
For the following, when applicable, enter procedure title(s), number(s) and date(s)	
(28)	Radiography: NA
	Visual Examination: CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste, CCP-TP-006, Revision 18, January 30, 2014

(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:** 1/30/2014

Reviewed by STR (if necessary): YES [X] N/A [ ] **Date:** 2/3/2014

Waste Stream Profile Form Certification:

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

Signature of Site Project Manager	Richard Kantrowitz	2/13/2014
	Printed Name	Date

NOTE: (1) The ATWIR identification number for this waste stream is to be developed in the next revision of the ATWIR. The waste is a combination of previously profiled waste streams BNINW216 and ID-RF-S3114.

CHARACTERIZATION INFORMATION SUMMARY

WSPF# ID-SRP-S3000 (CCP-AK-INL-026)

Lot 1

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CCP Characterization Information Summary Cover Page

Waste Stream #	ID-SRP-S3000	Lot #:	1
AK Expert Review:	N/A	Date:	N/A
SPM Review:	Brandye Pyeatt B. Pyeatt	Date:	02/05/2014

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:

Non Destructive Assay (NDA):

CCP-TP-115	Rev. 5.1	04/08/2013 CCP SWEPP Gamma-Ray Spectrometer (SGRS) Operating Procedure
CCP-TP-115	Rev. 4	06/24/2009 CCP SWEPP Gamma-Ray Spectrometer (SGRS) Operating Procedure
CCP-TP-115	Rev. 3	12/06/2006 CCP SWEPP Gamma-Ray Spectrometer (SGRS) Operating Procedure
CCP-TP-115	Rev. 2	08/12/2006 CCP SWEPP Gamma-Ray Spectrometer (SGRS) Operating Procedure
CCP-TP-115	Rev. 1	04/15/2005 CCP SWEPP Gamma-Ray Spectrometer (SGRS) Operating Procedure
CCP-TP-115	Rev. 0	02/27/2005 CCP SWEPP Gamma-Ray Spectrometer (SGRS) Operating Procedure

Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 21	06/06/2013 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 20	09/27/2012 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/2010 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/2007 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/2006 CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/2005 CCP Project Level Data Validation and Verification

CCP-TP-002	Rev. 26	06/19/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 25	02/11/2013 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 24	12/28/2011 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 22	06/30/2010 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 21	08/04/2009 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 20	08/18/2008 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 19	12/22/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 18	11/16/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 17	10/10/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 16	06/06/2006 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 15	08/16/2005 CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/2005 CCP Reconciliation of DQOs and Reporting Characterization Data

CCP-TP-005	Rev. 26	06/12/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 25	06/19/2013 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 24	11/28/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/2011 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/08/2010 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	08/05/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/2006 CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/2005 CCP Acceptable Knowledge Documentation

CCP-TP-030	Rev. 33	11/19/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 32	06/20/2013 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 31	11/19/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 30	05/21/2012 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 29	04/26/2011 CCP CH TRU Waste Certification and WWIS/WDS Data Entry

CCP-TP-030	Rev. 28	05/12/2010 CCP CH TRU Waste Certification and WWIS/WDS Data Entry
CCP-TP-030	Rev. 27	12/14/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/2009 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/2008 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/2007 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/2006 CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/2006 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/2005 CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/2005 CCP TRU Waste Certification and WWIS Data Entry

Visual Examination Technique:

CCP-TP-006	Rev. 18	01/30/2014 CCP Visual Examination Technique for INL Newly Generated TRU Waste
CCP-TP-006	Rev. 17	11/01/2012 CCP Visual Examination Technique for INL Newly Generated TRU Waste
CCP-TP-006	Rev. 16	12/29/2010 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits
CCP-TP-006	Rev. 15	06/30/2010 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits
CCP-TP-006	Rev. 14	11/11/2008 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits
CCP-TP-006	Rev. 13	10/30/2008 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits
CCP-TP-006	Rev. 12	05/01/2008 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits
CCP-TP-006	Rev. 11	04/14/2008 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits
CCP-TP-006	Rev. 10	12/11/2007 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits
CCP-TP-006	Rev. 9	10/18/2007 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits
CCP-TP-006	Rev. 8	11/16/2006 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits
CCP-TP-006	Rev. 7	08/09/2006 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits
CCP-TP-006	Rev. 6	08/02/2005 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits
CCP-TP-006	Rev. 5	05/05/2005 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits
CCP-TP-006	Rev. 4	04/19/2005 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits
CCP-TP-006	Rev. 3	04/15/2005 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits
CCP-TP-006	Rev. 2	03/18/2005 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits
CCP-TP-006	Rev. 1	02/21/2005 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits
CCP-TP-006	Rev. 0	11/16/2004 CCP Visual Examination Technique for Idaho National Laboratory (INL) Newly Generated TRU Waste Retrieved From Pits

WAP Certification:

CCP-PO-001	Rev. 21	05/31/2013 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/2011 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/30/2010 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	08/23/2009 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/26/2007 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/2006 CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/2005 CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 27	05/31/2013 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/2011 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/30/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/2010 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/2009 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/2007 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/2006 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	12/29/2005 CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/2005 CCP Transuranic Waste Certification Plan

CCP-PO-003	Rev. 13	07/31/2013 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 12	12/29/2010 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 11	06/04/2009 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 10	11/16/2006 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 9	12/29/2005 Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-003	Rev. 8	01/25/2005	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 7	11/22/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 6	08/08/2004	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 5	09/19/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 4	02/11/2003	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)
CCP-PO-003	Rev. 3	05/31/2002	Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPC)

CCP-PO-024	Rev. 14	06/26/2013	CCP/INL Interface Document
CCP-PO-024	Rev. 13	11/02/2012	CCP/INL Interface Document
CCP-PO-024	Rev. 12	10/01/2012	CCP/INL Interface Document
CCP-PO-024	Rev. 11	07/18/2011	CCP/INL Interface Document
CCP-PO-024	Rev. 10	12/29/2010	CCP/INL Interface Document
CCP-PO-024	Rev. 9	03/16/2009	CCP/INL Interface Document
CCP-PO-024	Rev. 8	07/07/2008	CCP/INL Interface Document
CCP-PO-024	Rev. 7	01/04/2008	CCP/INL Interface Document
CCP-PO-024	Rev. 6	05/15/2007	CCP/INL Interface Document
CCP-PO-024	Rev. 5	11/16/2006	CCP/INL Interface Document
CCP-PO-024	Rev. 4	03/14/2006	CCP/INL Interface Document
CCP-PO-024	Rev. 3	04/29/2005	CCP/INL Interface Document
CCP-PO-024	Rev. 2	04/12/2005	CCP/INL Interface Document
CCP-PO-024	Rev. 1	02/23/2005	CCP/INL Interface Document
CCP-PO-024	Rev. 0	10/25/2004	CCP/INL Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # ID-SRP-S3000 Lot # 1

Container ID Number	Historical Container ID	NDA BDR	RTR BDR	VE BDR	Overpack Yes
SRP19250	N/A	INNDAS130115	N/A	IN-SRP-VE-000498	Yes
SRP19251	N/A	INNDAS130115	N/A	IN-SRP-VE-000498	Yes
SRP19296	N/A	INNDAS130115	N/A	IN-SRP-VE-000498	Yes
SRP19297	N/A	INNDAS130115	N/A	IN-SRP-VE-000498	Yes
SRP19319	N/A	INNDAS130115	N/A	IN-SRP-VE-000497	Yes
SRP19320	N/A	INNDAS130115	N/A	IN-SRP-VE-000497	Yes
SRP19321	N/A	INNDAS130115	N/A	IN-SRP-VE-000497	Yes
SRP19322	N/A	INNDAS130115	N/A	IN-SRP-VE-000498	Yes
SRP19323	N/A	INNDAS130115	N/A	IN-SRP-VE-000498	Yes
SRP19324	N/A	INNDAS130115	N/A	IN-SRP-VE-000498	Yes

B. Pyeatt — Brandye Pyeatt — 02/05/2014

Signature of Site Project Manager | Printed Name | Date

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: ID-SRP-S3000 Lot #: 1

Container Number	RTR Prohibited Items [a,b]	Visual Examination Prohibited Items [a,b]	Does the Physical Form of the Waste Match the Waste Stream Description as Determined by AK
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	RTR was not used to certify any containers in this lot.	None of the containers in this Lot had prohibited items identified during Visual Examination technique.	The physical form of the waste matches the waste stream description as determined by AK.
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: VE was selected as the characterization method for this lot because the containers were newly generated and met all the Data Quality Objectives for NDE for the waste.			

B. Pyeatt — Site Project Manager Signature

Brandye Pyeatt — Printed Name

02/05/2014 — Date

CCP Reconciliation with Data Quality Objectives

WSPF# ID-SRP-S3000 Lot # 1

Sampling Completeness

RTR/VE:

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

Percent Complete: 100 (QAO is 100%)

NDA:

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

Percent Complete: 100 (QAO is 100%)

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	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.
4	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
5	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.
6	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.
7	Y	Waste stream can be classified as hazardous or nonhazardous.
8	Y	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-1 through C3-2 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.

	Completeness	Comparability	Representativeness
Radiography	NA	NA	NA
VE	Y	Y	Y

Comments: None

B. Pyeatt — Brandye Pyeatt — 02/05/2014

Signature of Site Project Manager | Printed Name | Date

Summation of Aspects of AK Summary Report: Waste Stream ID-SRP-S3000

Overview

Waste Stream ID-SRP-S3000 consists of contact handled transuranic (TRU) mixed solidified inorganic and solidified organic waste generated at the Subsurface Disposal Area (SDA) of the Idaho National Laboratory (INL) Radioactive Waste Management Complex (RWMC). The waste was historically generated at the Rocky Flats Environmental Technology Site (formerly Rocky Flats Plant) in Golden, Colorado and transferred to INL. Rocky Flats had two primary missions: the production of triggers for nuclear weapons, and the processing of retired weapons for plutonium recovery. The triggers, also known as pits, were the first-stage fission bombs used to initiate the second-stage fusion reaction in hydrogen bombs. Plutonium metal was recovered from retired warheads and manufacturing residues for reuse. This transuranic waste stream was generated in support of these defense related weapons activities. Therefore, this waste stream is defense related waste, generated from weapons activities including defense inertial confinement fusion.

This summation of the Acceptable Knowledge (AK) Summary Report includes information to support Waste Stream Profile Form number ID-SRP-S3000. The primary source of information for this summation is CCP-AK-INL-026, *Central Characterization Program Acceptable Knowledge Summary Report for Idaho National Laboratory Sludge Repackage Project Combined Sludge Waste, Waste Stream: ID-SRP-S3000,* Revision 0, November 18, 2013.

Waste Stream Identification Summary

Waste Stream Name:	SRP Combined Sludge Waste
Waste Stream Number:	ID-SRP-S3000
Dates of Waste Generation:	November 2013 through September 2015
Waste Stream Volume – Current:	560 55-gallon drums
Waste Stream Volume – Projected:	7406 55-gallon drums
Summary Category Group:	S3000 - Homogeneous Solids
Waste Matrix Code Group:	Solidified Organics and Solidified Inorganics
Waste Matrix Code:	S3100, Inorganic Homogeneous Solids
TRUPACT-II Content Code (TRUCON):	ID111/ID211 ID112/ID212 ID132/ID232
Annual Transuranic Waste Inventory Report Identification Number:	None[1]

[1] The ATWIR identification number for this waste stream is to be developed in the next revision of the ATWIR. The waste is a combination of previously profiled waste streams BNINW216 and ID-RF-S3114.

Waste Stream Description and Physical Form:

Waste stream ID-SRP-S3000 consists of sludge waste from repackaging of Rocky Flats inorganic and organic sludge wastes generated in Building 774. The organic sludge was originally generated from treatment of aqueous and organic liquid wastes from numerous buildings across the Rocky Flats site. The inorganic sludge was originally generated from treatment of aqueous liquid wastes from numerous buildings across the Rocky Flats site. The liquids were treated in a multistage process that included neutralization, precipitation, filtration, flocculation, clarification, and immobilization with Portland cement. The organic sludge was originally generated from treatment of organic liquids, primarily oils and chlorinated solvents from machining operations in Buildings 707, 776, and 777. Treatment consisted of immobilizing the liquids using Micro-cel E (a synthetic calcium silicate) to form a grease or paste-like material.

Small quantities of soil and debris may be present including cellulosic and plastic debris, lead items (e.g., lead tape, scrap lead, leaded rubber gloves and aprons, and lead seals), rubber debris, rubber gloves, metal debris, filters, aluminum, cloth, leather, latex, and Silver Shield gloves, knives, cutters, drum filters, paper, wood, plastic bottles, plastic sleeving, bags, bag stubs, aprons, rubber bands and O-rings, glovebox gloves, high-efficiency particulate air (HEPA) filters, empty cans, graphite, glass, tile, metal liner baskets, metal tools, and tray liners.

Non-hazardous immobilization/solidification agents have historically been added to individual containers of sludge during previous characterization activities and are added during Sludge Repackage Project (SRP) repackaging operations. These agents include vermiculite, Aquaset (sodium montmorillonite clay), Aquaset II-G (sepiolite clay), Petroset and Oil-Dri (Bentonite clay), SP-400 (sodium polyacrylate), and Micro-cel E (calcium silicate).

Sludge repackaged in the SRP may also include small quantities of waste from equipment decontamination and maintenance such as solidified decontamination solution (Simple Green [water, ethoxylated alcohol, sodium citrate, and other nonhazardous ingredients] absorbed with Oil Dri). Small quantities of soil may also be present from cleanup of incidental spills of waste materials.

This 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 is generated from the repackaging of Rocky Flats inorganic and organic sludge wastes.

Point of Generation

Location

Waste stream ID-SRP-S3000 is generated at the SDA of the RWMC at the INL, located approximately 51 miles west of Idaho Falls, Idaho.

The waste was historically generated at Rocky Flats, located in northern Jefferson County, Colorado, approximately 16 miles northwest of downtown Denver.

Area and/or Buildings of Generation

Waste stream ID-SRP-S3000 is generated in the Accelerated Retrieval Project-V (ARP-V) enclosure of the SDA of the RWMC.

The waste was historically generated from treatment of aqueous and organic liquid wastes in Building 774 at Rocky Flats.

Generating Processes

Description of Waste Generation Processes

Historical Waste Generation

When Building 774 was built in 1952, its primary purpose was to treat radioactive aqueous waste from Building 771. Later, aqueous and organic liquid wastes from numerous buildings on plant site were treated in Building 774.

Most aqueous wastes from plutonium recovery operations in Building 771 entered the first-stage of the Building 774 liquid waste processing facility by vacuum transfer through the process waste system. The most common aqueous waste streams that entered first-stage treatment were (References P061, P113, and P712):

- Plutonium ion exchange column effluent
- Part V waste solutions (nitric, sulfuric, and hydrofluoric acids)
- Americium ion exchange column effluent
- Nitric acid distillate from feed evaporator
- Thiocyanate waste solution
- Water distillate from peroxide precipitation filtrate evaporator
- Caustic scrubber solution
- Steam condensate.

Aqueous waste was transferred to second-stage treatment by truck or the process waste system from Buildings 111, 122, 123, 331, 334, 371, 443, 444, 447, 460, 551, 553, 559, 690, 705, 707, 750, 771, 774, 776, 778, 779, 865, 881, 883, 886, 889, and 991. Most of the wastes transferred to second-stage treatment by the process waste system were only accepted until August 1984 when the precipitation process in Building 374 went on-line. After that time, only the wastes from Buildings 771 and 774 were transferred to Building 774 second-stage treatment through the process waste system (References P052, P061, P109, P126, P507, P702, U040, and U043).

Organic liquids were transferred to Building 774 by pipeline or in containers. The organic liquids originated in Buildings 334, 371, 443, 444, 447, 559, 707, 776, 777, 778, 779, 865, 881, 883,

and 991 (References U040 and U043). In about 1985, organic wastes were segregated into either low-level or TRU tank systems. Prior to this, low level and TRU liquids were collected together (Reference U040).

Waste oils and solvents were generated primarily in Buildings 707 and 777. A cutting oil, usually Texaco Regal A (a nonhazardous oil similar to Regal R&O 32), flowed onto a part during machining (References P052, P077, and P518). After machining, the part was rinsed to remove residual oil. Various solvents were used to rinse machined parts and degrease tools. These included carbon tetrachloride, 1,1,2-trichloro-1,2,2-trifluoroethane, 1,1,1-trichloroethane, trichloroethylene, and tetrachloroethylene. Ultrasonic cleaner baths using 1,1,1-trichloroethane were used to clean parts. Metal turnings and scrap were cleaned in carbon tetrachloride baths before forming the turnings into briquettes (References P052, P053, and P077). Trichloroethylene was replaced by 1,1,1-trichloroethane for vapor degreasing of plutonium parts. Trichloroethylene remained in use in only one plutonium operation, and later was used only in research and analytical activities (References P023 and U040).

Aqueous Waste Treatment

Building 774 aqueous liquid waste treatment was a combination batch and continuous processing operation with a two-stage carrier precipitation process. Aqueous treatment operations included neutralization, precipitation, filtration, flocculation, clarification, and immobilization (References P052, P053, P113, P507, and P702).

Most of the aqueous wastes from Building 771 entered the first stage of Building 774 liquid waste processing facility by vacuum transfer through the process waste system. There were three first stage treatment options depending on the nature of the liquid to be treated. Acid wastes containing large quantities of metal ions that were insoluble in basic solutions, or chloride ions that were corrosive to the process equipment, were neutralized with sodium hydroxide (between 2.5 and 12). The purpose of this process was to remove the metal hydroxide solids prior to the succeeding flocculation and clarification processes. The precipitated solids were sent through vacuum filtration (References P507 and P702).

Acid waste containing only small quantities of metal ions that were insoluble in basic solutions and caustic wastes containing large quantities of un-dissolved solids were mixed with ferric sulfate and calcium chloride reagents and the pH adjusted as necessary with sodium hydroxide. The solids (mainly ferric hydroxide) settled to the bottom of the tank, and the liquid was decanted into the feed tank for the succeeding precipitation and clarification process. The solids were sent through vacuum filtration (References P507 and P702).

Liquid waste solutions that were relatively free of solids were mixed with the decanted solution from the previously described batch precipitation processes and the filtrate from the rotary drum vacuum filter. These combined wastes were drained into a flash mixer tank where the decontaminating chemical reagents were introduced. The mixture from the flash mixing vessel flowed into the flocculator where anionic polyelectrolyte flocculent was added. The mixture then flowed into the clarifier where the floc was allowed to settle out. The clarifier supernatant liquid was pumped to the second stage treatment process. The precipitate at the bottom of the tank flowed into the slurry tank awaiting vacuum filtration (References M701, P702).

Slurry from the first stage treatment was drawn through diatomite filter media by a vacuum inside a rotating filter drum. The filter media and trapped solids were continually scraped off the drum filter and fed into a 55-gallon drum [item description code (IDC) 001 and 741 series

sludge]. Portland cement was added to the bottom of the drum prior to placing sludge into the drum. Portland cement may also have been added on top of the sludge (References M706, P016, P052, P507, and P702).

Treated effluent from the first stage processes, filtrate from the second stage vacuum filter, liquid from the waste treatment process drains, and other wastes from numerous other buildings were received into second stage treatment. The second-stage process included two separate radioactive decontamination systems: (1) a batch precipitation system used to remove radioactive materials from wastes in which both the radioactive and chemical contaminants exceeded the standards, and (2) a continuous precipitation system used to remove radioactive materials from wastes meeting the standards for chemical, but not radioactive contaminants. In the batch radioactive decontamination process, ferric sulfate and calcium chloride reagents were added, and a flocculating agent was also added near the end of the mixing cycle. The supernatant liquid was decanted into treated waste holding tanks. The floc that settled to the tank bottom was then sent through vacuum filtration (References M701, P507, and P702).

The continuous radioactive decontamination process accepted low chemical content process wastes, primarily water and detergent from the laundry facility. This process was identical in process chemistry to first stage treatment. The treated liquid was pumped into holding tanks. The settled solids were sent through vacuum filtration (Reference P702).

In a process identical to first stage sludge, slurry from the second stage treatment was drawn through diatomite filter media by a vacuum inside a rotating filter drum. The filter media and trapped solids were continually scraped off the drum filter and fed into a 55 gallon drum (IDC 002 and 742 series sludge). Portland cement was added to the bottom of the drum prior to placing sludge into the drum. During processing of second stage sludge, several layers of cement may have been added between layers of sludge. Portland cement may have also been added to the top of the sludge (References M706 and P702).

Beginning in 1979, slurry from the first and second stage treatment was combined prior to filtration. The combined sludge was assigned IDC 001.

In 1986, the process for immobilizing first and second stage sludges was changed. Sludge waste generated under the new immobilization process was assigned IDC 800. Processing of first and second stage sludges through treatment, precipitation, and filtration did not change. However, as the sludge was scraped off the drum filter, it was co-fed into a drum with a diatomite and Portland cement mixture, which formed a solid monolith after curing. Assignment of IDC 001 was discontinued at this time (References M706, P052, P507, and P702).

Organic Liquid Waste Treatment

Organic liquid waste treatment began in 1965, the Building 774 Grease Plant began processing organic liquid wastes generated from plutonium machining and other operations. In this process, the organic liquids were processed through an extruder with Micro-cel E, a synthetic calcium silicate (References P002 and P517). Small amounts of Oil-Dri absorbent were sometimes added to the mixture as well (Reference P024). The amounts of materials added to the mixture were not metered; however, the operator would adjust the composition if the outgoing mixture did not have a paste-like consistency. The mixture would then drop into a polyvinyl chloride (PVC) O-ring bag contained in a 55-gallon drum (IDC 003 or 743 grease) (References P002, P016, P024, and P517).

The Grease Plant shut down in 1985, replaced by the new ENVIROSTONE process called the Organic and Sludge Immobilization System. Organic sludge from this process was categorized with different IDCs and is not currently included in the SRP waste stream (P052 and P053).

INL/Advanced Mixed Waste Treatment Project (AMWTP) Waste Repackaging Operations

Some of the containers transferred to the SRP for repackaging have been previously processed at INL to remediate prohibited items. These containers were remediated and or repackaged in the AMWTP Drum Treatment Facility or Advanced Mixed Waste Treatment Facility. Drums were processed to remove liquids as necessary by liquid absorption, drill and drain, and/or shaker table operations (References C515, P535, P536, P702, P706, and P711).

Non-hazardous immobilization/solidification agents (e.g., Aquaset, Aquaset II-G, SP-400, vermiculite, or Micro Cel E) were added to waste containers by AMWTP to treat prohibited liquids. Aquaset is a sodium montmorillonite clay material, Aquaset II-G is a sepiolite clay (granular), and Micro-Cel E is a synthetic calcium silicate (References C518, M703, M704, P517, P536, and P711). The decontamination agent ReACT was also used as required. ReACT is a non-toxic, non-flammable, non-corrosive, and bio-degradable mixture (References M705 and P707).

Other operations included rigid liner removal and repackaging, and drum over packing and un-over packing. Secondary waste items, such as leather, latex, and Silver Shield gloves, knives, cutters, drum filters, and plastic sleeving and aprons, were also packaged in the remediated drums (References C515, P535, P536, and P702).

SRP

Waste stream ID-SRP-S3000 consists of sludge waste generated from repackaging Rocky Flats inorganic and organic sludge wastes in the SRP. Drum contents are emptied onto a sorting table in the ARP-V enclosure using an excavator. The sorting table has the capacity to allow processing up to three drums at once. However, the operating procedure allows a maximum of two. On the table the waste is segregated and sorted to determine the presence of liquids, breach layers of confinement, and identify and remove prohibited items. Any inner containers that may contain liquid are opened or crushed with the excavator thumb or bucket to allow absorption of the liquid to take place. Absorbent is added and mixed into the waste with the excavator bucket to ensure absorption of liquids. Once mixing is completed, the waste is scraped from the sorting table with the excavator into a lined waste tray for processing in the drum packaging station (DPS). In the DPS additional absorbent may be added as necessary and the waste is characterized by visual examination (VE) and packaged into 55-gallon drums. Absorbents used include Oil-Dri, Aquaset, Petroset, or Micro Cel E (References C522, P542, P543, P544, and P546). Secondary waste consisting of small quantities of sludge contaminated debris such as tray liners, plastic sheeting, rubber bands, glovebox gloves, HEPA filters, and metal tools from repackaging operations may also be added to the waste stream (References P542, P543, P544, P545, and P546).

Equipment in the ARP-V enclosure may be decontaminated with water and Simple Green (water, ethoxylated alcohol, sodium citrate, and other nonhazardous ingredients) prior to maintenance and the resulting liquid absorbed with Oil- Dri and added to the sludge (Reference C522). Incidental spills of waste material during SRP reprocessing activities will be collected with small quantities of surrounding soil and included with the sludge (References C522, P542, P543, and P546).

Waste Stream Material and Chemical Inputs

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

Toxicity Characteristic Characteristic and F-Listed Constituents, Waste Stream ID-SRP-S3000

Chemical/Material	Use/Description	AK Source	EPA HWNs
1,1,1-Trichloroethane	Plutonium fabrication cleaning and degreasing Research and development Analytical laboratory reagent Metallography laboratory	P053, P060, P076, P079, P520, P702, P710	F001, F002
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	Plutonium fabrication cleaning Depleted uranium fabrication Beryllium fabrication Stainless-steel fabrication Research and development Analytical laboratory reagent	P052, P060, P076, P079, P520, P702, P710	F002
1,1-Dichloroethylene	Analytical laboratory reagent	P052	D029
1,2-Dichlorobenzene (ortho-dichlorobenzene)	Method detection limit (MDL) exceeded program required quantification limit (PRQL) due to dilution for Rocky Flats solids data	P521, P703	F002
1,4-Dichlorobenzene	MDL exceeded PRQL due to dilution for Rocky Flats solids data	P521, P703	D027
1,2-Dichloroethane	Analytical laboratory reagent	P052	D028
2-Ethoxyethanol	Analytical laboratory solvent	P052	F005
2,4-Dinitrotoluene	MDL exceeded PRQL due to dilution for Rocky Flats solids data	P521, P703	D030
Arsenic	Intermittent contaminant of aqueous waste treated in Building 774	P052, P702, P710	D004
Barium	Intermittent contaminant of aqueous waste treated in Building 774	P052, P702, P710	D005
Benzene	Plutonium fabrication cleaning Analytical laboratory reagent	P053, P076, P539, P702, P710	F005
Cadmium	Intermittent contaminant of aqueous waste treated in Building 774	P052, P702, P710	D006
Carbon disulfide	Analytical laboratory solvent	P076	F005
Carbon tetrachloride	Plutonium fabrication cleaning and degreasing Analytical laboratory reagent	P053, P060, P076, P520, P539, P702, P710	F001
Chloroform	Analytical laboratory reagent Research and development	P052, P053, P076, P539, P702	D022

Chemical/Material	Use/Description	AK Source	EPA HWNs
Chlorobenzene	Analytical laboratory solvent	P081, P539, P702	F002
Chromium	Intermittent contaminant of aqueous waste treated in Building 774	P052, P702, P710	D007
Cresols	MDL exceeded PRQL due to dilution for Rocky Flats solid data	P521, P703	D026
Cyanide cleaning bath solutions	Spent solutions treated in Building 774	P052, P539, P702	F009
Cyanide plating bath solutions	Spent solutions treated in Building 774	P052, P539, P702	F007
Electroplating sludge	Spent solutions treated in Building 774	P052, P539, P702	F006
Hexachlorobenzene	MDL exceeded PRQL due to dilution for Rocky Flats solids data	P521, P703	D032
Hexachloroethane	90-Percent Upper Confidence Limit (UCL_{90}) exceeded the regulatory threshold limit (RTL) in both Rocky Flats and INL 3,100 Cubic Meter Project solids data	P507, P521, P703, U098	D034
Lead	Lead items including lead tape, scrap lead, leaded rubber gloves, and seals Intermittent contaminant of aqueous waste treated in Building 774	D024, P052, P702, P710	D008
Mercury	Mercury batteries Intermittent contaminant of aqueous waste treated in Building 774	P052, P702, P710	D009
Methyl ethyl ketone	Research and development solvent Analytical laboratory reagent	P052, P062	F005
Methylene chloride	Research and development solvent Analytical laboratory solvent	P052, P053, P062, P076, P702, P710	F002
Nitrobenzene	Analytical laboratory reagent; non-solvent use	P052	D036
Pentachlorophenol	MDL exceeded PRQL due to dilution for Rocky Flats solids data	P521, P703	D037
Pyridine	Analytical laboratory solvent	P076	F005
Tetrachloroethylene	Plutonium fabrication cleaning Depleted uranium fabrication cleaning Stainless-steel fabrication Analytical laboratory reagent	P052, P053, P520, P539, P702, P710	F002
Trichlorofluoromethane	Component of Kester Residue Remover – 5211 Detected as a tentatively identified compound (TIC) in headspace gas	P540, P703	F001, F002
Selenium	Intermittent contaminant of aqueous	P052, P702, P710	D010

Chemical/Material	Use/Description	AK Source	EPA HWNs
	waste treated in Building 774		
Silver	Intermittent contaminant of aqueous waste treated in Building 774	P052, P702, P710	D011
Toluene	Analytical laboratory solvent	P052, P076, P702, P710	F005
Trichloroethylene	Plutonium fabrication cleaning Beryllium and uranium fabrication cleaning Stainless-steel fabrication Analytical laboratory reagent Decontamination solvent	P023, P052, P053, P076, P520, P539, P702, P710	F002

RCRA Determinations

Historical Waste Management

Waste stream ID-SRP-S3000 is sludge waste from repackaging of Rocky Flats inorganic and organic sludge wastes. Waste containers previously assigned to waste streams BNINW216 (IDCs 001, 002, 741, 742, and 800) and ID-RF-S3114 (IDC 003 and 743) rejected for prohibited items, or determined to not meet WIPP-Waste Acceptance Criteria (WIPP-WAC) are repackaged and characterized by VE in the SRP. The subject waste has historically been managed in accordance with INL waste management practices in compliance with the requirements imposed by the Idaho Department of Environment Quality. This waste has been historically managed as TRU mixed waste. In addition, this waste stream has been characterized by several different TRU waste programs. For this reason, the assignment of U.S. Environmental Protection Agency (EPA) Hazardous Waste Numbers (HWNs) to waste stream ID-SRP-S3000 considered the EPA HWNs assigned by these programs in addition to the review of the AK record (References C522, DR701, P052, P507, and P521). The only EPA HWN previously assigned to the waste and not assigned to waste stream ID-SRP-S3000 is F003 as described below.

Hazardous Waste Determinations

Ignitability, Corrosivity, Reactivity

Ignitability

The materials in this waste stream do not meet the definition of ignitability as defined in Title 40 Code of Federal Regulations (CFR) 261.21. The materials are not liquid and are repackaged and absorbents are added to the wastes to remove prohibited liquids (References C522, P542, P543, P544, P545, and P546). The waste is not capable of causing fire through friction, absorption of moisture, or spontaneous chemical change (References P012, P016, P024, and P501). The materials are not compressed gases, nor do the wastes contain compressed gases, and the waste is not an oxidizer (References P012, P013, P015, P016, P022, P024, P501, P702, and P703). Waste stream ID-SRP-S3000 is therefore not an ignitable waste (D001).

Corrosivity

The materials in this waste stream do not meet the definition of corrosivity as defined in 40 CFR 261.22. The materials are not liquid, do not contain unreacted corrosive chemicals, and are repackaged and absorbents are added to the wastes to remove prohibited liquids (References C522, P542, P543, P544, P545, and P546). Waste stream ID-SRP-S3000 is, therefore, not a corrosive waste (D002).

VE is performed to ensure no amount of liquid is present in the SRP combined sludge waste. Absorbent will be added to any waste that contains prohibited liquids during characterization. The basis for not allowing residual liquids in this waste stream is described in the Prohibited Items Section below.

Reactivity

The materials in this waste stream do not meet the definition of reactivity as defined in 40 CFR 261.23. The materials are stable, will not undergo violent chemical change, and will not detonate. The materials will not 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 sulfides and are not capable of detonation or explosive reaction. The materials are not explosive, nor do the drums contain any explosives (References P012, P013, P015, P016, P022, P024, P702, and P703).

The waste may contain trace quantities of cyanide derived from electroplating wastes, and containers with residual amounts of liquid chemical wastes added to the process waste stream (as opposed to piped waste water) (Reference U043). Only trace amounts of cyanide are expected in the waste stream feed and would not cause the resulting waste to be reactive. Based on the levels of concentration of cyanide in the feed waste, the alkalinity of the sludges (9 to 11 pH) and the presence of metals (e.g., Fe+3, Cu+2, Al+3), cyanide is not available for release because all free cyanide exists as stable metal complexes (Reference P702).

Second stage sludge (IDC 002 or 742 series sludge) generated before 1973 may contain lithium batteries. However, the batteries are spent/used and therefore not reactive (References C704 and P702).

VE is performed to ensure no amount of liquid is present in the SRP combined sludge waste, and to verify the absence of ignitable compressed gases. Absorbent will be added to any waste that contains prohibited liquids and compressed gas cylinders and unpunctured aerosol cans will be segregated and removed from the waste stream, or verified to be punctured during characterization. Waste stream ID-SRP-S3000 is, therefore, not a reactive waste (D003).

Toxicity Characteristic

Waste stream ID-SRP-S3000 exhibits the characteristic of toxicity for metal compounds as defined in 40 CFR 261.24. Arsenic (D004), barium (D005), cadmium (D006), chromium (D007), lead (D008), mercury (D009), selenium (D010), and silver (D011) were periodically included in wastes transferred to Building 774 for treatment (References P052 and P702). In addition lead (D008) and mercury (D009) items, including lead tape, scrap lead, leaded rubber gloves, lead seals, and mercury batteries were identified in the waste materials (References D024 and P702). Results from AMWTP TRU Waste Program sampling and analysis of first/second stage sludge (waste stream BNINW216) confirm that cadmium, chromium, lead, and silver are present

in the waste stream in quantities that exceed the RTL and that arsenic, barium, mercury and selenium also are present, but at levels less than the limit (References P702 and P709). Therefore, EPA HWNs D004, D005, D006, D007, D008, D009, D010, and D011 are assigned to waste stream ID-SRP-S3000 (Reference DR701).

Waste stream ID-SRP-S3000 exhibits the characteristic of toxicity for organic compounds as defined in 40 CFR 261.24. Chloroform (D022); 1,2-dichloroethane (D028); 1,1-dichloroethylene (D029); and nitrobenzene (D036) were identified as potential organic constituents in combined sludge waste. Therefore, EPA HWNs D022, D028, D029, and D036 are assigned to waste stream ID-SRP-S3000 (Reference DR701).

Homogeneous solids sampling and analysis of organic setups (IDC 003) was previously conducted by both the Rocky Flats and INL 3,100 Cubic Meter (m^3) TRU Waste Programs. Based on the analytical data from one or both programs, the UCL_{90} exceeded the RTL for carbon tetrachloride (D019/F001), chloroform (D022), 1,2-dichloroethane (D028), 1,1-dichloroethylene (D029), tetrachloroethylene (D039/F002), and trichloroethylene (D040/F002) in the organic setups waste, confirming AK. In addition, the UCL_{90} for hexachloroethane (D034) exceeded the RTL in both Rocky Flats and INL 3,100 m^3 data. Therefore, EPA HWN D034 is also assigned to waste stream ID SRP-S3000 (References P507, P521, and U098).

Although carbon tetrachloride, tetrachloroethylene, and trichloroethylene are present in this waste above the RTL, these compounds were used as solvents (i.e., for cleaning and degreasing); and therefore, the F-listed EPA HWN is applied. The toxicity characteristic EPA HWNs are not assigned.

During the analytical data review of the "non-detect" observations for homogeneous solids data (IDC 003), Rocky Flats determined that the MDL exceeded the PRQL for cresols (D026), 1,4-dichlorobenzene (D027), 2,4-dinitrotoluene (D030), hexachlorobenzene (D032), nitrobenzene (D036), and pentachlorophenol (D037) due to dilution. The dilution was due to high hydrocarbon content in the waste matrix that caused difficulties in analysis per the required methodology. Subsequent review of the solid sampling data and reconsideration of process knowledge confirms that cresols, 1,4-dichlorobenzene, 2,4-dinitrotoluene, hexachlorobenzene, and pentachlorophenol were not expected contaminants in this waste stream (potential sources for nitrobenzene have been identified as previously described). Where a constituent has been identified and there is no or limited quantitative data available to demonstrate that the concentration of a constituent is below regulatory threshold levels, the applicable EPA HWN is applied to the waste stream. Therefore, EPA HWNs D026, D027, D030, D032, and D037 are also assigned to waste stream ID-SRP-S3000 (Reference P521).

Headspace gas sampling and analysis of organic setups (IDC 003) was also conducted by the Rocky Flats and INL 3,100 m^3 TRU Waste Programs. Based on the analytical data from one or both programs, the UCL_{90} exceeded the PRQL for carbon tetrachloride (D019/F001), chloroform (D022), and 1,1-dichloroethylene (D029) in the organic setups waste, confirming AK (References P507 and P521).

Benzene (D018), chlorobenzene (D021), methyl ethyl ketone (D035), and pyridine (D038) are present in the waste as identified above based on AK. However, these compounds were used as solvents (i.e., for cleaning or solvent extraction); therefore, the more specific F-listed EPA HWNs are applied.

Based on the above discussion waste stream ID-SRP-S3000 is assigned EPA HWNs D022, D026, D027, D028, D029, D030, D032, D034, D036, and D037.

Listed Waste

F-Listed Waste

Waste stream ID-SRP-S3000 was derived from the treatment of hazardous wastes from non-specific sources as listed in 40 CFR 261.31. 1,1,1-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane, 2-ethoxyethanol, benzene, carbon disulfide, carbon tetrachloride, chlorobenzene, methyl ethyl ketone, methylene chloride, pyridine, tetrachloroethylene, trichloroethylene, and toluene were used for their solvent properties and therefore meet the definition of an F-listed waste. Two of these solvents, 1,1,1-trichloroethane and carbon tetrachloride were used for cleaning and degreasing in baths at Rocky Flats. This constitutes large scale degreasing operations, meeting the definition for F001 listed waste.

Based on headspace gas results for organic setups (IDC 003) trichlorofluoromethane is present as a tentatively identified compound. This compound is a component of Kester Residue Remover – Formula 5211, and was identified as an F001-listed constituent in combustibles and plastics. Therefore, trichlorofluoromethane is included as an F001- and F002-listed constituent to this waste stream (References P540 and P703).

During the analytical data review of the "non-detect" observations for organic setups (IDC 003) homogeneous solids data, Rocky Flats determined that the MDL exceeded the PRQL for 1,2-dichlorobenzene (F002) due to dilution. The dilution was due to high hydrocarbon content in the waste matrix that caused difficulties in analysis per the required methodology. Review of the Rocky Flats solid sampling data and reconsideration of process knowledge confirms that 1,2-dichlorobenzene was not an expected contaminant in this waste stream. Where a constituent has been identified and there is no or limited quantitative data available to demonstrate that the concentration of a constituent is below regulatory threshold levels, the applicable EPA HWN is applied to the waste stream. Therefore, EPA HWN F002 for 1,2-dichlorobenzene is included in waste stream ID-SRP-S3000 (References P521 and P703).

The flammable F003-listed solvents, acetone, butanol, ethyl benzene, ethyl ether, methanol, and xylene were used at Rocky Flats and are potential contaminants of the SRP combined sludge waste. Homogeneous solids and/or headspace gas data from the Rocky Flats and/or INL 3,100 m^3 TRU Waste Programs detected acetone, butanol, methanol, and xylene in the organic setups waste. However, F003-listed solvents are 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 (References P052, P077, P507, P521, P702, and P703).

Nitrobenzene, an F004-listed constituent, was used for its solvent properties at Rocky Flats in 1967; however, this pre-dates the containers in this waste stream. Other documentation also identifies nitrobenzene as potentially present in IDC 003, but its specific use was not identified (References C517, D022, P052, and P538). Therefore, this waste stream is assigned EPA HWN D036 as described previously and is not an F004-listed hazardous waste.

Pyridine (F005) was detected in several samples of organic setups (IDC 003) from the INL 3,100 m^3 Project, and although the UCL_{90} for pyridine is below the RTL, the maximum concentration of pyridine was well above the RTL (References P507 and U098). Pyridine was

not specifically identified as a contaminant of organic setups waste by AK; however, it was used at Rocky Flats as a solvent in analytical laboratory operations (Reference P076). For that reason, EPA HWN F005 for pyridine is included in waste stream ID-SRP-S3000 (References DR701 and P703).

Spent stripping, cleaning, and plating solutions from electroplating operations in which cyanides were used were treated in Building 774 up until 1982. The solidified aqueous wastes from this building were derived from the treatment of the hazardous electroplating wastes and are assigned EPA HWNs F006, F007, and F009 (References DR701, P702, P709, and P710).

Based on the above discussion waste stream ID-SRP-S3000 is assigned EPA HWNs F001, F002, F005, F006, F007, and F009.

K-Listed Waste

Waste stream ID-SRP-S3000 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

There is no documentation indicating that waste stream ID-SRP-S3000 contains discarded commercial chemical products, off-specification species, container residues, or spill residues thereof (References P052, P077, P507, P521, P702, and U099). This waste stream is therefore not a P- or U-listed hazardous waste as defined in 40 CFR 261.33.

Beryllium is regulated as a P-listed waste, but only as the commercial chemical product beryllium powder. Most of the beryllium used on site, primarily in Buildings 444 and 883, was in the form of metal (not powder). The exception is experimental work in Building 865 that involved pressing of the powder into shapes; however, only beryllium contaminated liquid from Building 865 was solidified. Therefore, waste stream ID-SRP-S3000 is not a P015-listed waste (References P052, P053, P702, and P703).

AK indicates the presence of residual amounts of contaminated mercury in pint bottles in second stage sludge (IDC 002) containers generated prior to 1973. The mercury is described as "contaminated," which denotes that it was used and discarded as waste. According to the Backlog Waste Reassessment Baseline Book, the liquid chemical wastes were compatible wastes, not commercially pure grade chemicals (Reference P052). Therefore, the U-listed HWN for mercury does not apply.

The constituent 1,2-benzenedicarboxylic acid, bis (2-ethylhexyl) ester (Chemical Abstract Service [CAS] No. 117-81-7), also known as bis (2-ethylhexyl) phthalate, was detected as a TIC in Rocky Flats semi-volatile organic compound (SVOC) analysis of IDCs 003 and 801. An evaluation to compare the TIC identification with AK was performed by Rocky Flats to determine if this TIC is a U-listed hazardous waste in this waste stream. This evaluation (which included the onsite use of bis (2-ethylhexyl) phthalate for filter testing and in vacuum pump oil) determined that this constituent was not present as an unused commercial chemical product. There is no evidence that bis (2-ethylhexyl) phthalate used on site for filter testing would have contributed to this waste stream; however, AK does indicate that the vacuum pump oil used in mass spectrometers in Buildings 707 and 777 may have been composed of this constituent and this oil may have been disposed of in the oil/solvent mixture feed to the Grease Plant process, but not as an unused product. Bis (2-ethylhexyl) phthalate is also a common plasticizer used in

plastic, including the plastic bags/packaging used to package this waste. Accordingly, this waste stream is not a U028-listed hazardous waste (Reference P521).

The U-listed HWN (U134) for hydrofluoric acid is not applicable to this waste stream. Hydrofluoric acid was used during recovery operations in Building 771, but was not disposed of as unused product within the waste stream.

Polychlorinated Biphenyls

Waste stream ID-SRP-S3000 may contain greater than 50 parts-per-million (ppm) polychlorinated biphenyls (PCBs) and is regulated as a Toxic Substances Control Act (TSCA) waste under 40 CFR 761, *Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions*. Potential sources of PCBs consist of organic setups (IDC 003 or 743 series sludge) repackaged in the SRP (References C505, C506, C519, C520, and P546). Organic setups waste (IDC 003 or 743 series sludge) is categorized as PCB Remediation Waste based on written communications with the EPA (References C505, C506, C519, C520, and P546).

From 1962 to 1977, radioactively-contaminated oils containing PCBs (e.g., vacuum pump and hydraulic press oils) were solidified with calcium silicate (i.e., Micro-cel E) and shipped to INL for disposal. According to a Building 774 treatment logbook that dates back to mid-1976, there are two instances (8/27/76 and 1/26/78) of PCB contaminated oils from Building 334 being processed (References C207, P024, and U040).

In 1977, preparations were started by Rocky Flats to retrofill several transformers known to contain a total of nearly 10,000 gallons of PCB fluid. The fluids were to be taken to Building 774 for solidification and disposal as radioactive waste. When the EPA regulations for PCBs were first published May 31, 1979, approximately 894 gallons of PCB fluids had been drained, leaving a total of 8,601 gallons. In June 1979, all action to solidify the PCB fluids was suspended by U.S. Department of Energy (DOE) pending approval by the EPA of a disposal method. These transformer oils were eventually incinerated off site and were never solidified (Reference C207).

However, sampling events at Rocky Flats in late-1984 and July 1985 identified several mineral oil-filled transformers that were not previously identified as containing PCB fluid. No documentation has been identified that indicates the PCB-contaminated mineral oil was investigated by Rocky Flats. Therefore, IDC 003 waste generated after 1977 and up to the 1985 sampling event are suspect for PCB contamination (Reference C207).

Sampling and analysis of organic setups (IDC 003) was conducted by the INL 3,100 m^3 Project. Analytical results for IDC 003 solid samples collected from waste generated through 1984 had a UCL_{90} exceeding 50 ppm PCBs (References P507 and U099).

Newly packaged drums in waste stream ID-SRP-S3000 determined by VE to contain any amount of organic setups waste (IDC 003 or 743 series sludge) are managed as a TSCA waste under 40 CFR 761 and in accordance with the PCB disposal requirements in the WIPP-WAC.

Prohibited Items

Waste stream ID-SRP-S3000 is sludge waste from repackaging of Rocky Flats inorganic and organic sludge wastes. Waste containers previously assigned to waste streams BNINW216 (IDCs 001, 002, 741, 742, and 800) and ID-RF-S3114 (IDC 003) rejected for prohibited items, or

determined to not meet WIPP-WAC are repackaged and characterized by VE as waste stream ID-SRP-S3000.

Prohibited items potentially in this waste stream are sealed containers greater than four liters, liquids, and compressed gases.

Based on a review of several waste packaging and inspection procedures, the drum and rigid liner lids were not vented, nor did the rigid liner lid contain a vent hole when the waste was shipped from Rocky Flats to INL (References P008, P026, P063, P064, P501, P502, P503, and P505). As the drums are retrieved for characterization, they are vented and aspirated to ensure equilibration of any gases that may have accumulated in the closed container.

Excess liquid is a common prohibited item identified during real-time radiography (RTR) and VE of inorganic and organic sludge. Liquids have been observed on top of the sludge, within the drum bag, between the rigid liner and drum, and in small inner containers (References P024, P534, P702, P725, and U519). Since the organic setups (003 or 743 series sludge) contain greater than 50 ppm PCBs, any residual liquids including containerized liquids, identified during RTR and/or VE are assumed to contain greater than 50 ppm PCBs. Residual liquids containing PCBs are prohibited by the WIPP-WAC (Reference P024, P534, P702, P725, and U519). Therefore, any amount of liquid in a drum containing organic setups waste must be remediated during SRP repackaging operations.

Compressed gases in the form of unpunctured aerosol cans may also be present in the waste (References P702, P725). A 2.5-gallon propane tank with prohibited liquids was identified by RTR in one drum of second stage sludge (IDC 002). These items will be segregated and removed from the waste stream, or verified to be punctured during SRP repackaging operations.

In addition, RTR has identified sharp objects, impenetrable objects, or impenetrable lead shielding including lead-drum liners or lead-taped rigid liners (Reference P725).

Method for Determining Waste Material Parameter Weights per Unit of Waste

The Waste Material Parameter (WMP) weight estimates for waste stream ID-SRP-S3000 were derived using the certified data for 12,183 drums of first/second stage sludge (waste stream BNINW216), and 3,841 drums of organic setups (waste stream ID-RF-S3114).

The BNINW216 data were obtained from the Waste Data System (WDS) database as of October 9, 2013. The ID-RF-S3114 data were derived from RTR and VE of Rocky Flats absorbed organic liquid wastes by the Central Characterization Program (CCP) TRU waste certification program at INL. The WDS data were derived from RTR and VE of Rocky Flats absorbed organic liquid wastes by the AMWTP TRU waste certification program.

A weighted average for each WMP was estimated based on the potential population of containers to be repackaged into the waste stream (approximately 38 percent organic setups, waste stream ID-RF-S3114, and 62 percent first/second stage sludge, waste stream BNINW216). The results of this analysis are presented in the Waste Stream ID-SRP-S3000 Waste Material Parameters table.

Waste Stream ID-SRP-S3000 Waste Material Parameters

Waste Material Parameter	Weight Percent	Weight Percent Range
Iron-based Metals/Alloys	0.21%	0% – 13.92%
Aluminum-based Metals/Alloys	<0.01%	0% – 0.62%
Other Metals	0.01%	0 %– 14.62%
Other Inorganic Materials	1.47%	0 %– 100.00%
Cellulosics	0.03%	0% - 26.24%
Plastics (waste materials)	0.79%	0% – 37.41%
Rubber	0.08%	0% – 8.35%
Organic Matrix	36.52%	0% – 100.00%
Inorganic Matrix	60.87%	0% – 100.00%
Soils/Gravel	0.02%	0% – 33.91%
Total Inorganic Waste Average	62.59%	
Total Organic Waste Average	37.41%	

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 listed TRUCON codes and they are consistent.

Beryllium

Beryllium may be present in the inorganic and organic sludge wastes but only in particulate form as a trace contaminant. Analysis conducted by Rocky Flats shows that the UCL_{90} for beryllium in IDCs 001, 002, and 003 is less than one percent by weight of the waste in each drum (References P521, P702, P703, and P719).

AK and solid sampling data from Rocky Flats Waste Stream Profile Form RF107.01 suggest that beryllium may exceed 1 percent by weight for containers of IDC 800 (Reference P720). Therefore, in accordance with the WIPP transportation requirements, waste stream ID-SRP-S3000 drums containing repackaged solidified sludge (IDC 800) waste will be limited to 100 Fissile Gram Equivalents (FGE) per payload container and 100 FGE per payload package (Reference P702).

Radionuclide Information

Based on previous assay data a summary of the potential radionuclides in waste stream ID-SRP-S3000 has been compiled and provided in table Waste Stream ID-SRP-S3000 Radiological Characterization. The assay data were derived using the certified data for 12,183 drums of first/second stage sludge (waste stream BNINW216), and 5,872 drums of organic setups (waste stream ID-RF-S3114). To determine isotopic ratios for waste stream ID-SRP-S3000 as a whole, the averages for radionuclide concentrations by weight and activity percent were calculated for each data set, then a combined weighted average for each radionuclide was

estimated based on the potential population of containers to be repackaged into the waste stream (approximately 38 percent organic setups, waste stream ID-RF-S3114, and 62 percent first/second stage sludge, waste stream BNINW216). The two most prevalent radionuclides are U-238 and Pu-239.

Waste Stream ID-SRP-S3000 Radiological Characterization

Radio-nuclide	Containers Reported	Total wt%	Radionuclide wt% Range	Total Curie Percent (Ci %)	Radionuclide Ci % Range	Expected Yes/No
WIPP Required Radionuclides						
Am-241	16242	0.23%	0% - 100.00%	50.06%	0% - 100.00%	Yes
Pu-238	16546	<0.01%	0% - 14.75%	0.79%	0% - 99.20%	Yes
Pu-239	16760	3.95%	0% - 99.82%	14.25%	0% - 74.54%	Yes
Pu-240	16557	0.24%	0% - 36.32%	3.11%	0% - 39.60%	Yes
Pu-242	16679	<0.01%	0% - 8.08%	<0.01%	0% - <0.01%	Yes
U-233	7	<0.01%	0% - 9.02%	<0.01%	0% - <0.01%	Yes
U-234	10412	<0.01%	0% - 1.08%	<0.01%	0% - 96.93%	Yes
U-238	6466	95.13%	0% - 99.99%	<0.01%	0% - 89.98%	Yes
Sr-90	412	<0.01%	0% - 41.25%	<0.01%	0% - 52.40%	Yes
Cs-137	412	<0.01%	0% - 58.87%	<0.01%	0% - 47.71%	Yes
Additional Radionuclides						
Co-60	1	<0.01%	0% - <0.01%	<0.01%	0% - <0.01%	Yes
H-3	0	0.00%	0% - 0%	0.00%	0% - 0%	Yes
Ra-226	29	<0.01%	0% - 100.00%	<0.01%	0% - 100.00%	Yes
Th-228	0	0.00%	0% - 0%	0.00%	0% - 0%	Yes
U-232	217	<0.01%	0% - <0.01%	<0.01%	0% - 25.68%	Yes
U-235	9486	0.43%	0% - 99.85%	<0.01%	0% - 23.70%	Yes
Np-237	14324	0.01%	0% - 100.00%	<0.01%	0% - 100.00%	Yes
Pu-241	16753	0.01%	0% - 75.25%	31.77%	0% - 99.98%	Yes

Payload management will be implemented in accordance with the WIPP-WAC, Appendix E.

AK Source Documents

Source Document Number	Title
C032	External letter from J. K. Paynter to J. N. Davis, Idaho National Engineering Laboratory Data Package Information Change for Drum D40197-0743-18283
C039	Internal Correspondence from J. K. Paynter to B. C. Barrett
C086	Memorandum from Jeff Paynter to Pamela of IT Corporation. Use of the Complexing Agent DHDECMP
C130	Fax from Steve Cunningham, Rocky Flats, to Jeff Paynter
C134	Interview Record and associated documentation of several former Rocky Flats employees
C137	Interview Record of E. Putzier and E. Vejvoda by D. Herrick and J. Lamb
C154	Interview Record of W. V. Conner by T Widner and D. Lamb
C159	Interview Record of R. Hoffman by D. Herrick and J. Lamb
C170	Telecon between Al Morgan of Rocky Flats (retired) and Jeff Harrison
C171	Telecon between Bill Connor of Kaiser-Hill LATO and Jeff Harrison
C184	Interview Record of Al Morgan by Jeff Harrison
C185	Telecon between Bill Connor of LAPO and Jeff Harrison
C207	Summary of Review of PCB AK Sources
C502	Letter from John A. Ciucci to Joseph A. Legare. Resolution of Cesium-137 AK Discrepancy Between Rocky Flats Environmental Technology Site and Idaho National Engineering and Environmental Laboratory
C505	Letter from Cynthia Zvonar, Department of Energy Carlsbad Field Office, to Lou E. Roberts, Environmental Protection Agency
C506	Letter from John H. Smith, Environmental Protection Agency, to Lynne Smith, Department of Energy WIPP Office Director, EM-23
C515	Email from Whitney St Michel to Barbara Broomfield, Vince Medina, Bill Verlanic, "RF-003 Treated Drums"
C516	Letter to Vincent C. Vespe, "Request for Approval - Shipments of Radioactive Waste in 55-Gallon Steel Drums"
C517	Earliest Pack Date for Rocky Flats Waste Retrieved From Pits 11 and 12
C518	Email from Jason P. Lance to Jim Vernon, "RF-743 Summary"
C519	Letter from Scott Raish, AMWTP, to Dave Wessman, U.S. DOE Idaho, "Toxic Substances Control Act Application for a Risk-Based Disposal Approval to Process Radiologically Contaminated Liquids Containing Polychlorinated Biphenyls-SCR-003-07"

Source Document Number	Title
C520	Letter from Michael Bussell, U.S. EPA, to David Wessman, U.S. DOE Idaho, "Approval of the (TSCA) RBDA Application for Management of Transuranic PCB Remediation Waste at AMWTP Facility"
C522	Internal Memo re: Evaluation of Chemicals Used in the Sludge Repackage Project for Waste Streams ID-RF-S3114 and ID-RF-S3150-A, Rocky Flats Absorbed and Solidified Organic Liquids Waste
C701	Memorandum to CCP Records: Waste Stream Volume Estimate for ID-SRP-S3000, SRP Combined Sludge Waste
C702	Defense Waste Streams Generated at Rocky Flats Environmental Technology Site (RFETS)
C703	Memo to file, Volume Estimate for BNINW216 First/Second Stage Sludge Waste Stream
C704	External letter and Paper to Brian R. Monson, Idaho Department of Environmental Quality. "Response to New Mexico Environmental Concern with IDC 002."
D005	Discrepancy Resolution for EPA Hazardous Waste Number Assignments for Waste Streams ID-RF-S3114 and ID-RF-S3150-A, Rev. 1
D009	Discrepancy Resolution for Cs-137 and Sr-90 in Rocky Flats TRU Waster
D022	Discrepancy Resolution. Solvent Use of Nitrobenzene
D023	Graphite in Waste
D024	Discrepancy Resolution. Addition of EPA Hazardous Waste Number D008 to Waste Stream ID-RF-S3114.
DR701	Discrepancy Resolution: EPA Hazardous Waste Number Assignments for Waste Stream ID-SRP-S3000
M001	Memorandum to CCP Records: Addition of Containers to Waste Stream ID-RF-S3114
M701	Material Safety Data Sheet for Purifloc I A23 Flocculant
M702	Material Safety Data Sheet for Oil Dri Floor Absorbent.
M703	Material Safety Data Sheets for WaterWorks SP-400® Absorbent (MSDS-1252)
M704	Material Safety Data Sheets, Aquaset® (sodium montmorillonite) and Aquaset II-G® (sepiolite)
M705	Material Safety Data Sheet for ReACT
M706	Material Safety Data Sheet for Portland Cement

Source Document Number	Title
M707	Radioactive Waste Management Complex Map
P001	TRU Waste Compliance Program for WIPP-WAC (U)
P002	Organic and Sludge Immobilization System
P004	Rocky Flats Plant Waste Management Site Plan
P008	Packaging and Handling Line- and Nonline-Generated Materials (U)
P012	TRUPACT-II Content Codes (TRUCON)
P013	EG&G Sampling Program Results FY1987
P014	TRU Waste Certification Program for WIPP-WAC (U)
P015	TRU Waste Sampling Program: Volume I-Waste Characterization
P016	Idaho National Engineering Laboratory Code Assessment of the Rocky Flats Transuranic Waste
P020	Characteristics of Transuranic Waste at Department of Energy Sites
P022	EG&G Sampling Program Results FY1989
P023	(Task 5 Draft Report) Estimating Historical Emissions from Rocky Flats (Partial)
P024	Content Code Assessments for INEL Contact-Handled Stored Transuranic Wastes
P026	Transuranic Solid Waste Inspection (U)
P033	Summary of Transuranic Waste Characterization Programs at the INEL (1979-Present)
P043	TRU Waste Compliance Program for WIPP-WAC (U)
P052	Backlog Waste Reassessment Baseline Book
P053	(Tasks 3&4 Final Draft Report) Reconstruction of Historical Rocky Flats Operations and Identification of Release Points
P060	Waste Stream and Residue Identification and Characterization Building 707
P061	Waste Stream and Residue Identification and Characterization Building 771
P062	Waste Stream and Residue Identification and Characterization Building 779
P063	Packaging Wastes for Shipment Offsite (U)
P064	Waste Packaging Requirements
P069	Nuclear Materials Control Elements printout. SAN Database Report

Source Document Number	Title
P076	Waste Stream and Residue Identification and Characterization Building 559
P077	Waste Stream Residue Identification and Characterization Building 774
P078	Waste Stream Residue Identification and Characterization Building 776
P079	Waste Stream Residue Identification and Characterization Building 777
P081	Waste Stream Residue Identification and Characterization Building 371
P082	Waste Stream Residue Identification and Characterization Building 374
P084	Material Safety Data Sheet for Varsol 1
P090	History of Rocky Flats Waste Streams
P091	Materials Hazards Manual
P109	Waste Stream Residue Identification and Characterization Building 774 v 5.0
P113	Actinide Processing at Rocky Flats
P126	Waste Stream and Residue Identification and Characterization: Valve Vaults
P142	Material Safety Data Sheet for ZL-22A Zyglo Penetrant
P152	Plutonium Metal Feed Specification for Use in the Weapons Program. Volume 1
P161	Dose Reconstruction Project Task 5
P164	A History of The Rocky Flats Plutonium/Actinide Recovery Plant 1952-1991
P166	Rocky Flats Risk Assessment Guide
P167	Neptunium Processing at the Rocky Flats Plant
P169	Plutonium Isotopic Ratios at Rocky Flats
P178	Research and Development Quarterly Progress Report. October, November, and December 1968
P179	Research and Development Quarterly Progress Report. April, May, and June 1969
P180	Research and Development Quarterly Progress Report. July, August, and September 1969
P181	Research and Development Quarterly Progress Report. January, February, and March 1970; Chemistry
P182	Research and Development Quarterly Progress Report. April, May, and June 1970; Chemistry
P183	Research and Development Quarterly Progress Report. July, August, and September 1970; Chemistry

Source Document Number	Title
P184	Research and Development Quarterly Progress Report. October, November, and December 1970; Chemistry
P185	Research and Development Quarterly Progress Report. January, February, and March 1971; Chemistry
P186	Research and Development Quarterly Progress Report. April, May, and June 1971; Chemistry
P187	Research and Development Quarterly Progress Report. July, August, and September 1971
P188	Research and Ecology Annual Report. Chemistry Research and Development
P189	Research and Ecology Semi-Annual Progress Report January – June 1972
P190	Research and Ecology Semi-Annual Progress Report. Chemistry Research and Development. July through December 1972
P191	Research and Ecology Semi-Annual Progress Report. Chemistry Research and Development. January-June 1973
P192	Research and Ecology Semi-Annual Progress Report. Chemistry Research and Development. July-December 1973
P193	Research and Development Semi-Annual Progress Report for July through December 1974; Chemistry
P194	Research and Development Semi-Annual Progress Report for January through June 1975
P195	Research and Development Semi-Annual Progress Report for January through June 1977
P196	Chemistry Research and Development Annual Progress Report November 1, 1979 through October 31, 1980
P197	Chemistry Research and Development Annual Progress Report November 1, 1980 to September 30, 1981
P198	Chemistry Research and Development Annual Progress Report. October 1, 1981 to September 30, 1982
P199	Chemistry Research and Development Annual Progress Report October 1, 1982 to September 30, 1983
P200	Chemistry Research and Development Annual Progress Report October 1, 1983 to September 30, 1984
P201	Chemistry Research and Development Annual Progress Report October 1, 1984 through September 30, 1985
P202	Chemistry R&D Monthly Progress Report

Source Document Number	Title
P210	Default Plutonium Mass Fractions for Rocky Flats Plant Waste
P227	Plutonium Mass Fractions Derived from SGRS Data
P501	Packaging Waste for Shipment Offsite
P502	Packaging and Handling Plutonium Wastes and Residues
P503	Packaging Wastes for Shipment Off-Site
P505	Procedure for Packaging and Handling Pu Waste and Residue Drums
P507	Acceptable Knowledge Document for INEEL Stored Transuranic Waste – Rocky Flats Plant Waste
P508	Radioactive Waste Management Complex Map Drawing
P509	Radioactive Waste Management Complex – Idaho Completion Project
P512	Waste Description Information for Transuranically Contaminated Wastes Stored at Idaho National Engineering Laboratory.
P513	Determination of Radioisotopic Content In TRU Waste Based on Acceptable Knowledge.
P515	Estimated Earthen and Geofabric Covered TRU Waste Inventory in the TSA at Radioactive Waste Management Complex (RWMC)
P517	Material Safety Data Sheet, Micro-Cel® E (All Grades)
P518	Material Safety Data Sheets for Various Texaco Oils and Shell Vitrea M Oil
P519	Waste Systems Progress Report March 1983 through February 1984
P520	Building Histories for Building 371, 444, 447, 460, 707, 771, 776/777, 881, 883, and 991 Historical Release Report (HRR)
P521	Rocky Flats Environmental Technology Site WIPP Waste Stream Profile Form, TRM Solidified Organic Waste
P532	Summary of Rocky Flats Waste Buried in the Subsurface Disposal Area
P534	Shipment And Disposal Of Solidified Organic Waste (Waste Type IV) TO The Waste Isolation Pilot Plant (WIPP), Presented at WM'06 Conference, February 26-March 2, 2006, Tucson, AZ.
P535	Drum Treatment Facility Operations
P536	Visual Examination of S3000 Waste in the Facility
P537	Subsurface Disposal Area (SDA) Waste Identification (1952-1970 Emphasis)

Source Document Number	Title
P538	Colorimetric Determination of Iron in Plutonium Metal Using a Nitrobenzene Extraction Technique
P539	Acceptable Knowledge Document for INL Stored Transuranic Waste – Rocky Flats Plant
P540	Acceptable Knowledge Re-evaluation Checklist, CCP-TP-005, Attachment 10, 3/28/06
P542	SRP DPS Waste Packaging
P543	SRP RA V Waste Processing
P544	WMF-1617 SRP-Support Systems
P545	RWMC Waste Handling and Overpacking
P546	Risk-Based Disposal Approval Application for Management of Polychlorinated Biphenyl (PCB) Remediation Waste Contaminated with Transuranic Radioisotopes at the Idaho Cleanup Project (ICP) Accelerated Retrieval Project V (ARP V) Facility
P547	RWMC-55 Gallon Drum Assembly
P701	BNINW216 Waste Stream Profile Form
P702	Waste Stream Summary for BNINW216
P703	ID-RF-S3114 Rev. 1 Waste Stream Profile Form
P706	Liquid Remediation for Inorganic Sludges
P707	AJR WMF-635 Drum Re-overpacking Facility Operations
P709	Waste Stream Profile Form INW216.001 First/Second Stage Sludge
P710	Hazardous Waste Code Determination for First/Second Stage Sludge Waste Stream (IDCs 001, 002, 800)
P711	INEEL Acceptable Knowledge Waste Stream Summary Sheet–First/Second Stage Sludge
P712	A Survey of the Rocky Flats Division Waste Stream
P713	Hazardous Waste Constituents of INEL Contact-Handled Stored Transuranic Waste
P714	Chemical Constituents in Transuranic Storage Area (TSA) Waste
P715	Advanced Mixed Waste Treatment Project Waste Stream Designations
P716	Determination of Radioisotopic Content in TRU Waste Based on Acceptable Knowledge
P717	Joint NRC-EPA Draft Storage Guidance for Low-Level Mixed Waste

Source Document Number	Title
P718	Interim Status Requirements For NRC Licensees Managing Radioactive Mixed Waste, Clarification
P719	Waste Stream RF139.01 Waste Stream Profile Form
P720	Waste Stream RF 107.01 Waste Stream Profile Form
P721	History of Buried Transuranic Waste at INEL
P722	Excavation Plan for the Accelerated Retireval Project (WMF-1617) – Pit 9 Retrieval Area (ARP V)
P723	Removal Action Plan for the Accelerated Retrieval Project for a Described Area within Pit 4
P724	Excerpt from the HWMA/RCRA Permit
P725	Waste Matrix Code Reference Manual
U010	OASIS Solidification and Off Gas Analysis
U040	Building 774 Low Level Organic and TRU-Waste Organic Waste Log Book.
U043	Building 774 Set Up Log Book
U059	Drum Prefix Numbers and Corresponding Material Balance Areas
U064	Radioactive Materials Associated with Rocky Flats
U069	Drum Prefix Issue Dates Log Book
U092	Inventory values as generated by TRIPS Change Request (TCR) 1821
U098	Preliminary data for the IDC 003 waste stream
U099	Draft Waste Stream Profile Form – Solidified Organics and Supporting Documentation
U505	Rocky Flats Prefix History Timeline
U517	Advanced Mixed Waste Treatment Project (AMWTP) Visual Examination (VE) Data Sheets
U518	Advanced Mixed Waste Treatment Project (AMWTP) Glove Box Glove Specifications
U519	Excerpts of CCP Nonconformance Reports (NCRs) for Prohibited Liquids
U520	Att 1 – CCP Waste Visual Examination Technique Data Form SCO#798 Addendum 5 Windows XP 2002 MX Excel 2003