

**APPENDIX O**  
**WASTE STREAM PROFILES (NON-WIPP)**

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**AE**

**Argonne National Laboratory – East**

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## **ARGONNE NATIONAL LABORATORY - EAST**

### **Location and Description**

Argonne National Laboratory-East (ANL-E) occupies the central 1,700 acres of a 3,740-acre tract in DuPage County, 35 kilometers southwest of downtown Chicago and 39 kilometers west of Lake Michigan. It lies north of the Des Plaines River Valley, south of Interstate Highway 55 and west of Illinois Highway 83. The 2,040 acres surrounding the site was formerly ANL-E property, but was deeded to the DuPage County Forest Preserve District in 1973 for their use as a public recreational area, nature preserve and demonstration forest.

The terrain is gently rolling, partially wooded, former prairie and farmland. The grounds contain a number of small ponds and streams, the principal one being Sawmill Creek, which runs through the site in a southerly direction and enters the Des Plaines River about 2.1 kilometers southeast of the center of the site.

### **Mission**

Since World War II, ANL-E has been engaged in nuclear energy research. Currently it is a multidisciplinary research and development laboratory conducting basic and applied research to support development of energy-related technologies.

### **Waste Information**

#### **Processes**

Most of the TRU and TRU mixed waste has been generated by three operations:

1. The Alpha Gamma Hot Cell Facility located in Building 205
2. The New Brunswick Laboratory (NBL), Building 305
3. Chemistry, chemical technology, and analytical programs.



The Alpha Gamma Hot Cell Facility does destructive examinations of fuel and components primarily associated with the Reactor Program. The waste component of this stream consists of metal and combustible trash containing adventitious quantities of TRU. The radioactive material originated in Idaho and is currently returned to the Radioactive Waste Management Complex (RWMC) at INEL for interim storage.

New Brunswick Laboratory does uranium and plutonium assay analyses for the DOE system. This stream generates approximately 130 cubic feet of waste per year. This stream consists of TRU nitrate solutions containing as estimated 130 grams of TRU annually.

The Reactor Program has generated small volumes of TRU waste contaminated with cadmium. This is a mixed waste that contains significant quantities of plutonium and uranium.

Some plutonium-containing liquid waste stream from the NBL analytical laboratories has been processed by the experimental/demonstration TRU-EX process in Building 205. This TRU-EX process is being replaced by a new transuranic neutralization precipitation process. Hot cells in Buildings 200, 205, and 212 are used to package remote-handled TRU waste.

TRU wastes are generated in dozens of laboratories on site. Most of these wastes are collected in containers smaller than 5 gallons because of the nature of the work performed at the Laboratory. The waste is transported to Building 306 where the waste is treated. Solid TRU waste treatment consists only of preparing it for interim storage.

Liquid TRU waste (which is normally hazardous because of corrosivity) will be treated in a new process (TRU neutralization/precipitation process). The solid waste from this treatment process will also simply be put into storage until WIPP begins accepting waste.

#### **Modifications/Assumptions/Development**

Waste streams that are expected to be directly shipped to WIPP (upon WIPP-WAC certification) without any need for repackaging or treatment are reported as "currently stored" in final form volume. For waste streams that are currently stored but are projected to be repackaged and/or treated at a later date prior to their shipment to WIPP, are also reported as "currently stored." This is done in order to avoid the error of double-counting these streams as both "as generated currently stored" and "final form projected."



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: AE-T001 Handling: CH NMVP #: N/A Stream Name: Solid heterogeneous inorganic/organic waste Inventory Date:  
 Local ID: Type: TRU Generator Site: AE Final Waste Form: Unknown Waste Matrix Code: Z9000

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES	
	Avg	Min	Max	Category:	Source:		Isotope ( Ci/m3 )	
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Defense TRU Waste	Unassigned	U-238	2.24E-05
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		U-235	2.50E-05
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		U-233	1.20E-09
	Other Inorganic Material:	101.0	101.0	101.0	PCBs: No		Pu-241	6.10E-01
	Vitrified:	0.0	0.0	0.0			Pu-239	1.17E+00
	Cellulosics:	0.0	0.0	0.0	Source: R&D/R&D Laboratory Waste		Pu-238	4.07E-06
	Rubber:	0.0	0.0	0.0			Np-237	6.43E-03
	Plastics:	0.0	0.0	0.0			Am-243	4.00E-02
	Solidified Inorganic Material:	216.3	168.3	259.6			Am-241	2.13E+00
	Solidified Organic Material:	0.0	0.0	0.0				
	Cement (solidified):	0.0	0.0	0.0				
	Soils:	0.0	0.0	0.0				
	Packaging Material Steel:	131.0						
	Packaging Material Plastic:	37.0						
	Packaging Material Lead:	0.0						
	Packaging Material Steel Plug:	0.0						



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Drum / 55-gallon	13.3	0.0	0.0	0.0	0.0	13.3	55 Gallon Drum	13.3	0.0	0.0	0.0	0.0	13.3
Totals	13.3	0.0	0.0	0.0	0.0	13.3	Totals	13.3	0.0	0.0	0.0	0.0	13.3

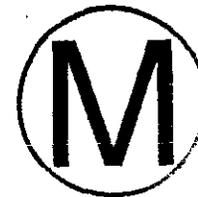
As-Generated Form: Stored: 13.3 Projected: 0.0 Total: 13.3 Final Waste Form: Stored: 13.3 Projected: 0.0 Total: 13.3

TWBIR ID: AE-T001

Appendix O

DOE/CAO-95-1121

WASTE STREAM DESCRIPTION	6/6/95 This waste stream is Solidified nonhazardous TRU-CH liquids stored mostly at the at 317 Area vaults
WASTE STREAM SOURCE	\$ Not reported \$ Non-mixed TRU derived from IDB
CURRENT CONTAINER COMMENTS	N/A
EPA COMMENTS	N/A
MANAGEMENT COMMENTS	N/A
ACCEPTANCE COMMENTS	N/A
FINAL FORM COMMENTS	N/A



AM

ARCO Medical Products Company

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## **ARCO MEDICAL PRODUCTS COMPANY**

### **Location and Description**

Nuclear pacemakers developed by the ARCO Medical Products Company (AM) are the product of a research program conducted with the DOE during the 1970's. The purpose of the program was to evaluate the practicality of using a radioisotope-fueled pacemaker in humans. Direct program management is provided under contract by Roy F. Weston, Inc. The AM storage facility is located in West Chester, Pennsylvania.

### **Mission**

ARCO's Corporate Environmental Remediation group is responsible for oversight of the surviving pacemakers. Presently, 50 of the pacemakers are in storage. Roy F. Weston also tracks the remaining implanted pacemakers and arranges for shipment of the devices from the hospital where they are explanted, to their storage facility. Eighty pacemakers remain implanted in patients. The pacemakers are being explanted at a rate of about three per year. The maximum life span of the device is estimated to be 20 to 40 years.

### **Waste Information**

#### **Processes**

Each pacemaker device consists of three sub-assemblies: a nuclear battery, an electronics assembly, and a cardiac lead. The nuclear battery includes a 0.5 gm Pu-238 oxide fuel pellet, triple encapsulated in three successive right circular cylinders.



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: AM-W001 Handling: CH NMVP #: N/A Stream Name: Nuclear Pacemakers Inventory Date: 1/31/95  
 Local ID: Type: TRU Generator Site: AM Final Waste Form: Heterogeneous Waste Matrix Code: S5400

**AS-GENERATED  
EPA CODES**

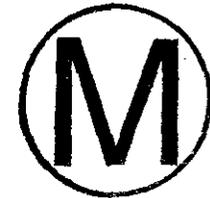
**WASTE MATERIAL PARAMETERS (kg/m3)**

**FINAL WASTE FORM DESCRIPTORS**

**TRUCON CODE**

**FINAL FORM RADIONUCLIDES**

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS	TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max			
N/A	Iron-base Metal/Alloys:	0.1	0.0	0.0	Category: Commercial TRU Waste	N/A
	Aluminum-base Metal/Alloys:	0.1	0.0	0.0	Residues: No	Isotope ( Ci/m3 ) Pu-238   3.73E+02
	Other Metals/Alloys:	0.2	0.0	0.0	Asbestos: No	
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: No	
	Vitrified:	0.0	0.0	0.0	Source:	
	Cellulosics:	0.0	0.0	0.0		
	Rubber:	0.0	0.0	0.0		
	Plastics:	0.0	0.0	0.0		
	Solidified Inorganic Material:	0.0	0.0	0.0		
	Solidified Organic Material:	0.0	0.0	0.0		
	Cement (solidified):	0.0	0.0	0.0		
	Soils:	0.0	0.0	0.0		
	Packaging Material Steel:	131.0				
	Packaging Material Plastic:	37.0				
	Packaging Material Lead:	0.0				
	Packaging Material Steel Plug:	0.0				



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Box	0.04	0.01	0.01	0.02	0.02	0.1	55 Gallon Drum	0.0	0.0	0.4	0.0	0.0	0.4
Totals	0.0	0.0	0.0	0.0	0.0	0.1	Totals	0.0	0.0	0.4	0.0	0.0	0.4

As-Generated Form: Stored: 0.04 Projected: 0.1 Total: 0.10 Final Waste Form: Stored: 0.0 Projected: 0.4 Total: 0.4

**WASTE STREAM DESCRIPTION** Waste stream consists of radioisotope-powered pacemaker. Each pacemaker device includes 3 sub-assemblies: a nuclear battery, an electronics assembly, and a cardiac lead. The nuclear battery includes a 0.5 gm Pu-238 oxide fuel pellet, triple encapsulated in 3 successive right circular cylinders.

**WASTE STREAM SOURCE** Waste stream consists of radioisotope-powered cardiac pacemakers, each containing 0.5 gram of Pu-238. The pacemakers were originally manufactured by the Nuclear Material and Equipment Corporation. One hundred and twenty-six of these pacemakers were implanted in patients at various medical centers throughout the U.S. At present, 50 pacemakers are in storage at ARCO's Roy F. Weston facility in Pennsylvania. The remaining pacemakers are in use.

**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS**

**MANAGEMENT COMMENTS** N/A

**ACCEPTANCE COMMENTS** N/A

**FINAL FORM COMMENTS** N/A



**AW**

**Argonne National Laboratory – West**

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## **ARGONNE NATIONAL LABORATORY - WEST**

### **Location and Description**

Argonne National Laboratory-West (ANL-W) is located approximately 56 kilometers west of Idaho Falls, Idaho, in the southeastern portion of the Idaho National Engineering Laboratory (INEL). ANL-W is in Bingham County in the State of Idaho. The ANL-W administrative area covers slightly more than one square mile and is managed by the DOE/Chicago Office. The Management and Operating Contractor is the University of Chicago.

### **Mission**

ANL-W is a research and development laboratory. Much of the work done there supports development of advanced nuclear power plant technology. This support includes irradiation and safety tests, reactor physics studies, and fuel examination studies.

ANL-W consists of several major complexes: Experimental Breeder Reactor II (EBR II) the Transient Reactor Test Facility (TREAT), the Zero Power Physics Reactor (ZPPR), the Hot Fuel Examination Facility (HFEF), The Fuel Conditioning Facility (FCF), the Fuel Manufacturing Facility (FMF), Laboratory and Office Building, support complexes such as the Radioactive Liquid Waste Treatment Facility (RLWTF) and the Radioactive Scrap and Waste Facility (RSWF), and the Sodium Process Facility.

### **Waste Information**

#### **Processes**

Solid radioactive waste generated at ANL-W is primarily associated with irradiated experimental fuel subassemblies and capsules from EBR-II and, to a lesser degree, TREAT. After irradiation in ANL-W reactors, the subassemblies and capsules were conveyed to appropriate facilities for dismantling, sampling, and examination. If they were not contaminated with sodium, these reactor pieces and parts were shipped to the RWMC as remote-handled waste. Sodium-contaminated reactor parts are stored in the RSWF at ANL-W.

The ANL-W Waste Operations Program encompasses all ANL-W non-production facilities, operations, and sites used for the storage, treatment, or disposal of radioactive, hazardous, mixed, and sanitary waste materials that have been properly characterized, packaged, and labeled. Facilities used exclusively for long-term storage of ANL-W waste material are also covered in this program.

Waste management activities are those concerned with minimization, treatment, storage, and disposal of radioactive, hazardous, mixed, and non-hazardous wastes generated as a result of ongoing operations at active facilities and from other resources such as the Environmental Restoration Program. Many of these activities support continuity of operations at ANL-W.



Routine operations include shipping TRU waste from ANL-W to the Radioactive Waste Management Complex on the INEL for storage and then eventual disposal to WIPP. Operations at the RSWF involves TRU and mostly TRU mixed waste which is contaminated with elemental sodium. The waste will be moved from this interim holding area to approved and appropriate DOE waste treatment or disposal areas, when identified.

### **Modifications/Assumptions/Development**

Waste streams that are expected to be directly shipped to WIPP (upon WIPP-WAC certification) without any need for repackaging or treatment are reported as "currently stored" in final form volume. For waste streams that are currently stored but are projected to be repackaged and/or treated at a later date prior to their shipment to WIPP, are also reported as "currently stored." This is done in order to avoid the error of double-counting these streams as both "as generated currently stored" and "final form projected."



Appendix O

DOE/CAO-95-1121

TWBIR ID: AW-N028

**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: AW-W028 Handling: RH NMVP #: N/A Stream Name: TRU WASTE USED PRE-FILTERS Inventory Date: 4/30/95  
 Local ID: CH-ANL-503T Type: MTRU Generator Site: AW Final Waste Form: Unknown Waste Matrix Code: S5410

**AS-GENERATED EPA CODES**

D008, D007, D006

**WASTE MATERIAL PARAMETERS (kg/m3)**

	Avg	Min	Max
Iron-base Metal/Alloys:	0.0	0.0	0.0
Aluminum-base Metal/Alloys:	0.0	0.0	0.0
Other Metals/Alloys:	0.0	0.0	0.0
Other Inorganic Material:	0.0	0.0	0.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	0.0	0.0	0.0
Rubber:	0.0	0.0	0.0
Plastics:	0.0	0.0	0.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	0.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	0.0		
Packaging Material Plastic:	0.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

**FINAL WASTE FORM DESCRIPTORS**

Category: Defense TRU Waste  
 Residues: No  
 Asbestos: No  
 PCBs: No  
 Source: Facility/Equipment Operation and Maintenance Waste

**TRUCON CODE**

N/A

**FINAL FORM RADIONUCLIDES**

N/A



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Wooden Box	0.9	0.0	0.0	0.0	0.0	0.9							
Totals	0.9	0.0	0.0	0.0	0.0	0.9							

As-Generated Form: Stored: 0.9 Projected: 0.0 Total: 0.9 Final Waste Form: Stored: 0.0 Projected: 0.0 Total: 0.0

**WASTE STREAM DESCRIPTION** This waste stream consists of metal or wood framed pre-filters. Pre filters are 2' X 2' X 0.5'. The filters have screen mesh covering high efficiency filtering media. The concentration of radioisotopes and RCRA metals varies in each filter. These filters were generated from the decontamination of the analytical hot cells in 1993 and 1994. Final waste form has not been determined yet.

**WASTE STREAM SOURCE** This waste stream was generated at Bldg ANL-752, Analytical Laboratory. Typical laboratory operations, analytical and radiochemistry. The facility also houses and experimental fuels casting lab, and areas for small-scale testing of experimental processes related to nuclear fuels fabrication. Wastes were generated primarily from hot cell refurbishment. The generating process is: Pre-filters are used to control airborne radioactive particulate emissions from hot cells, hot repair areas, analytical lab hoods and other radioactively contaminated systems. Refurbishment of hot cells and hot repair areas has generated lead, cadmium, and chromium dusts from paint removal, stainless steel cutting, and fuel experiment dissolution decontamination. The filters trap the metals in the filter media in concentrations high enough to classify the filters as mixed waste.

**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** Grab samples were taken from 6 of the 16 filters. Samples were analyzed for total metal content in the filter media. Sample results were extrapolated to estimate the concentration of a representative sample of the entire filter, not including the housing. TCLP was not conducted, due to the high radiation levels of the sample.  
 Grab samples were taken from 6 of the 16 filters. Samples were analyzed for total metal content in the filter media. Sample results were extrapolated to estimate the concentration of a representative sample of the entire filter, not including the housing. TCLP was not conducted, due to the high radiation levels of the sample.

**MANAGEMENT COMMENTS** N/A

**ACCEPTANCE COMMENTS** N/A

**FINAL FORM COMMENTS**



Appendix O

DOE/CAO-95-1121

TWBIR ID: **AW-W018**

**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: AW-W018 Handling: RH NMVP #: N/A Stream Name: SODIUM - TRU Inventory Date: 4/30/95  
 Local ID: CH-ANL-180T Type: MTRU Generator Site: AW Final Waste Form: Unknown Waste Matrix Code: X7520

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:			
D003, D001	Iron-base Metal/Alloys:	0.0	0.0	0.0	Defense TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: No		
	Vitrified:	0.0	0.0	0.0	Source: Facility/Equipment Operation and Maintenance Waste		
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	0.0					
	Packaging Material Plastic:	0.0					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Metal Box (.127cm)	10.2	0.0	0.0	0.0	0.0	10.2							
Metal Box (.13cm)	2.9	0.0	0.0	0.0	0.0	2.9							
Metal Box (1cm)	0.1	0.0	0.0	0.0	0.0	0.1							
Metal Box (.22cm)	0.2	0.0	0.0	0.0	0.0	0.2							
Metal Box (.25cm)	0.3	0.0	0.0	0.0	0.0	0.3							
<b>Totals</b>	<b>13.6</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>13.6</b>							

As-Generated Form: Stored: 13.6 Projected: 0.0 Total: 13.6 Final Waste Form: Stored: 0.0 Projected: 0.0 Total: 0.0

**WASTE STREAM DESCRIPTION** Sodium is used as a primary and was used as a secondary coolant for the EBR-II reactor. Waste sodium metal is a hazardous constituent of some of the TRU waste stored at the ANL-W Radioactive Scrap and Waste Facility (RSWF). The waste is generated during maintenance and operational activities. The sodium typically coats waste metal equipment, experiments, and components removed during reactor operations and maintenance activities. This waste will require treatment prior to disposal at WIPP. Final waste form has not been determined yet.

**WASTE STREAM SOURCE** This waste stream was generated at ANL-767, EBR-II Reactor Building, and ANL-785, Hot Fuel Examination Facility. (ANL-767) Typical nuclear reactor operations including maintenance activities on control systems. (ANL-785) Hot cells operations including dismantling and examination of nuclear fuels and experiments which contain elemental sodium. The generating process is: Some maintenance activities in Bldg. 767 involve working on and replacement of sodium wetted equipment associated with the EBR-II cooling systems. If the waste equipment cannot be cleaned of the sodium metal, it is stored in the RSSF. Also, the secondary cooling systems at EBR-II occasionally leak sodium metal. Cleanup operations generate sodium-contaminated wastes. All 767 wastes are contact-handled. Processes in Bldg. 785 more routinely generate sodium contaminated wastes because materials handled and examined in the facility (nuclear fuel rods and assemblies, and experiments) contain sodium. All 785 wastes are remote handled.

**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** Sodium is not dispersed uniformly throughout the waste matrix.

**MANAGEMENT COMMENTS** Alpha Containment

**ACCEPTANCE COMMENTS** N/A

**FINAL FORM COMMENTS**



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: AW-W019 Handling: RH NMVP #: N/A Stream Name: SODIUM POTASSIUM -NaK- TRU Inventory Date: 4/30/95  
 Local ID: CH-ANL-182T Type: MTRU Generator Site: AW Final Waste Form: Unknown Waste Matrix Code: X7520

**AS-GENERATED EPA CODES**

**WASTE MATERIAL PARAMETERS (kg/m3)**

**FINAL WASTE FORM DESCRIPTORS**

**TRUCON CODE**

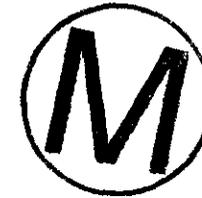
**FINAL FORM RADIONUCLIDES**

D003, D001

	Avg	Min	Max
Iron-base Metal/Alloys:	0.0	0.0	0.0
Aluminum-base Metal/Alloys:	0.0	0.0	0.0
Other Metals/Alloys:	0.0	0.0	0.0
Other Inorganic Material:	0.0	0.0	0.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	0.0	0.0	0.0
Rubber:	0.0	0.0	0.0
Plastics:	0.0	0.0	0.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	0.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	0.0		
Packaging Material Plastic:	0.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

Category: Defense TRU Waste  
 Residues: No  
 Asbestos: No  
 PCBs: No  
 Source: Facility/Equipment Operation and Maintenance Waste

N/A

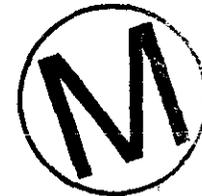


**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes					Final Waste Form Volumes							
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Metal Box (.127cm)	0.3	0.0	0.0	0.0	0.0	0.3							
Totals	0.3	0.0	0.0	0.0	0.0	0.3							

As-Generated Form: Stored: 0.3 Projected: 0.0 Total: 0.3 Final Waste Form: Stored: 0.0 Projected: 0.0 Total: 0.0

<b>WASTE STREAM DESCRIPTION</b>	Sodium potassium alloy (NaK) is used as a coolant for some components of the EBR-II Réactor. Waste NaK metal is a hazardous constituent of some transuranic wastes stored at the ANL-W Radioactive Scrap and Waste Facility (RSWF). The remote-handled NaK waste at RSWF is contained in stainless steel capsules or tubing and placed inside carbon steel waste cans which then are placed in stainless steel outer cans. The entire package is then stored in RSWF storage liners (carbon steel soil storage vaults). The NaK is generated during maintenance and operational activities. NaK waste is in canisters with TRU waste metal pieces and rods from reactor experiments. This waste will require treatment prior to disposal at WIPP. Final waste form has not been determined yet.
<b>WASTE STREAM SOURCE</b>	This waste stream was generated at ANL-767, EBR-II REactor Building: Typical nuclear reactor operations including maintenance activities on control systems.. The generating process is: The remote-handled NaK waste currently stored at RSWF is contained in stainless steel capsules or tubing as part of nuclear experiments. The waste is in canisters with TRU waste metal pieces and rods from reactor experiments.
<b>CURRENT CONTAINER COMMENTS</b>	N/A
<b>EPA COMMENTS</b>	Waste is stored at RSWF in various liners with varying amounts of NaK contamination.
<b>MANAGEMENT COMMENTS</b>	Alpha Containment
<b>ACCEPTANCE COMMENTS</b>	N/A
<b>FINAL FORM COMMENTS</b>	



**ET**

**Energy Technology Engineering Center**

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## **ENERGY TECHNOLOGY ENGINEERING CENTER**

### **Location and Description**

Energy Technology Engineering Center (ET) occupies 90 acres of 290 acres of land shared with the Santa Susana Field Laboratory. The Santa Susana site is composed of a total of 2,700 acres located in the Simi Hills of Ventura County, approximately 48 kilometers northwest of downtown Los Angeles, California. Both DOE and the Rocketdyne Division of Rockwell International Corp. own facilities within this area. The Rockwell facilities include former fuel fabrication facilities, a hot cell, a reactor test building, a storage vault, an on-site transport cask, and other radiologically contaminated support laboratories and areas.

### **Mission**

ET provides facilities for the testing of equipment, materials, and components for nuclear and other energy programs. Components include steam generators, pumps, valves, instrumentation, and other support elements for power plant design. Various types of testing include reliability, seismic, and performance demonstrations. Current activities include non-nuclear testing, and cleanup and environmental restoration from prior nuclear testing programs, such as decontamination and decommissioning of an NRC-licensed hot cell that was used for DOE activities.

### **Waste Information**

#### **Processes**

ET TRU waste streams are CH waste comprised of absorbent materials plastics, rags, and other laboratory disposal solids. A second waste stream of similar composition was generated during DOE fuel decladding and decontamination and decommissioning operations. The second waste stream includes a small quantity of lead.

### **Modifications/Assumptions/Development**

Waste streams that are expected to be directly shipped to WIPP (upon WIPP-WAC certification) without any need for repackaging or treatment are reported as "currently stored" in final form volume. For waste streams that are currently stored but are projected to be repackaged and/or treated at a later date prior to their shipment to WIPP, are also reported as "currently stored." This is done in order to avoid the error of double-counting these streams as both "as generated currently stored" and "final form projected."



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: ET-W021    Handling: RH    NMVP #: NA    Stream Name: Hot Lab & PU Facility D&D    Inventory Date: 5/15/95  
 Local ID: ET    Type: MTRU    Generator Site: ET    Final Waste Form: Unknown    Waste Matrix Code: S5490

**AS-GENERATED  
EPA CODES**

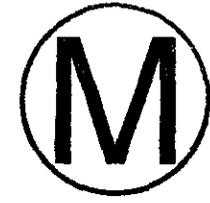
**WASTE MATERIAL PARAMETERS (kg/m3)**

**FINAL WASTE FORM DESCRIPTORS**

**TRUCON CODE**

**FINAL FORM RADIONUCLIDES**

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS	TRUCON CODE	FINAL FORM RADIONUCLIDES	
	Avg	Min	Max			Isotope ( Ci/m3 )	
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Category: Defense TRU Waste	N/A	Sr-90 7.50E-04
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		Pu-239 7.50E-05
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: Unknown		Cs-137 7.50E-04
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: Unknown		Co-60 7.50E-04
	Vitrified:	0.0	0.0	0.0	Source: Remediation/D&D Waste		Am-241 1.50E-05
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	0.0					
	Packaging Material Plastic:	0.0					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Drum / 55-gallon	5.5	0.8	0.0	0.0	0.0	6.3	55 Gallon Drum	5.4	0.8	0.0	0.0	0.0	6.2
<b>Totals</b>	<b>5.5</b>	<b>0.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>6.3</b>	<b>Totals</b>	<b>5.4</b>	<b>0.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>6.2</b>

**As-Generated Form:**    Stored: 5.5    Projected: 0.8    Total: 6.3    **Final Waste Form:**    Stored: 5.4    Projected: 0.8    Total: 6.2

**WASTE STREAM DESCRIPTION** Dry residue and debris from the drain piping removed during the Hot lab D&D activities. Waste is characterized by high radiation level (RH). Radiological evaluation has determined that the waste contains TRU elements above the 100nCi/g, and potentially could contain hazardous constituents, there by it has been managed as mixed TRU waste.

**WASTE STREAM SOURCE** D&D activities at the Hot Lab

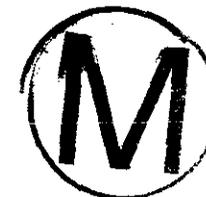
**CURRENT CONTAINER COMMENTS** Storage conatiner is a concrete lined drum for shielding. Shipping containers will be selected after completion of radiochemical analysis and determination of the waste disposition.

**EPA COMMENTS** Regulated constituents that may be present will be determined by laboratory analysis ( now pending)

**MANAGEMENT COMMENTS** Pending sampling and analysis, this W.S. will continue to be managed as potentailly mixed TRU

**ACCEPTANCE COMMENTS** N/A

**FINAL FORM COMMENTS** Storage conatiner is a concrete lined drum for shielding. Shipping containers will be selected after completion of radiochemical analysis and determination of the waste disposition. herefore Sections 8.2.7, 8.2.8, 8.2.14.1.13, 8.2.14.1.14 & 8.2.15 are left incomplete.



**IN**

**Idaho National Engineering Laboratory**

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## **IDAHO NATIONAL ENGINEERING LABORATORY**

### **Location and Description**

The Idaho National Engineering Laboratory (IN) is located in two primary areas: (1) the remote areas known as "the Site" along the northern edge of the Snake River Plain in southeastern Idaho, and (2) multiple locations southeast of the Site in the City of Idaho Falls. Lying at the foot of the Lost River, Lemhi, and Bitterroot-Centennial Mountain ranges, the Site covers nearly 2300 square kilometers (890 mi<sup>2</sup>) of dry, cool desert. Most of the land withdrawn from public domain for use by the U.S. Department of Energy (DOE) is undeveloped. The facilities located in Idaho Falls include administrative, scientific support, and non-nuclear research laboratories.

During World War II, the U.S. Navy and U.S. Army Air Corps used a portion of the present Site as a gunnery range. In 1949, the Site was formally established as the National Reactor Testing Station (NRTS), a place where the Atomic Energy Commission (AEC) could build, test, and operate various types of nuclear reactors. Fifty-two reactors have been built at the INEL; of these, seven are operating or operable.

The Radioactive Waste Management Complex (RWMC) encompasses 144 acres in the southwestern corner of the INEL. The RWMC was established in 1952 as a controlled area for burial of solid radioactive wastes generated by INEL operations. In 1954, the burial ground was designated as a solid transuranic (TRU) waste disposal site. Until 1970, all TRU was buried below grade at the RWMC. In November 1970, the Transuranic Storage Area (TSA) was established for retrievable storage of waste contaminated with greater than 10 nanocuries (nCi) of TRU alpha activity per gram of waste. In November 1976, the Intermediate Level TRU Storage Facility (ILTSF) was established for retrievable storage of remote-handled (RH) TRU contaminated waste (greater than 200 millirem per hour). At the ILTSF the radioactive waste is stored in abovegrade vaults.

The DOE/Idaho Operations Office administers the INEL excluding Argonne National Laboratory-West. The current operator for the majority of the facilities is Lockheed Martin Idaho Technologies.

### **Mission**

The INEL is a multiprogram laboratory and has provided innovative technologies, defense-related support and unique scientific and engineering capabilities to the nation. At present, areas of primary emphasis include nuclear reactor technology research and development, waste management and environmental restoration, advanced energy production and utilization technology development, defense-related support, technology transfer, and non-nuclear research and development projects. Development, transfer, and deployment of technologies to avoid and/or dispose of hazardous and/or radioactive waste and for remediation/restoration of previous disposal sites to protect the public, employees, and environment are also part of INEL's mission.



## Waste Information

### Processes

Solid TRU waste generated in national defense programs and research activities was buried or stored at the RWMC. This TRU waste typically includes cloth, paper, plastics, metals, rubber, sludge, and concrete. TRU waste received at the INEL from November 1970 through July 1980 was placed on asphalt pads and covered with an earthen-cover to protect the waste from the environment until it could be permanently disposed. Waste received after this timeframe was placed in air-supported buildings for interim storage.

The Stored Waste Examination Pilot Plant (SWEPP) was constructed in 1984 and provides a facility for the nondestructive examination and assay (NDE/NDA) of TRU-contaminated wastes. The facility operated at production levels (5,000 drums per year) from August 1985 through September 1989. In 1989, the facility was placed in standby due to the change in the Waste Isolation Pilot Plant (WIPP) Waste Acceptance Criteria (WAC). The WAC requirements were changed in 1989 to include the requirements of the Transuranic Package Transport (TRUPACT-II). The facility has remained in standby condition with the exception of the waste required to support the WIPP Waste Characterization Program.

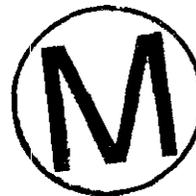
The TSA Retrieval Enclosure (RE) is being constructed over the top of the earthen-covered waste and will allow year-round retrieval operations. The facility is expected to be completed in fiscal year 1997. Retrieval rates for the facility are expected to be 20,000 drum equivalents (DE) per year. Retrieval of all earthen-covered waste in the TSA is expected to be completed between 2010 and 2014.

In 2003, all INEL TRU-contaminated waste in storage is expected to be treated at the Advanced Mixed Waste Treatment Facility for disposal at WIPP. The processing rate for the facility is expected to be approximately 5,000 m<sup>3</sup> per year with a volume reduction of about 65%.

Due to the Spent Nuclear Fuel Settlement Agreement which was signed with the State of Idaho, DOE has agreed to ship 3,100 m<sup>3</sup> (15,000 DE) of untreated waste from the INEL by 12/31/2002. After 1/01/2003, the INEL is required to ship a running average of 2,000 m<sup>3</sup> of stored inventory per year. All TRU waste stored at the INEL is required to be out of the state no later than 12/31/2018.

### Notes on the INEL Reporting Format

The INEL data submittal did not provide any information on the type and number of currently stored containers for each waste stream reported in the TWBIR Rev. 2. The only information about stored containers included in the site submittal was the type and the total number of containers for each *unsegregated* waste stream as it currently exists at the site. In general, for the purposes of reporting for the Rev. 2 data submittal, each of the *unsegregated* streams have been segregated by INEL into two or more sub-streams to be shipped to WIPP. As a result, there has been a substantial increase in the number of streams reported for TWBIR Rev. 2 as compared to TWBIR Rev. 1.



The first basis for segregation into sub-streams is whether the unsegregated waste stream contains a mixture of CH-TRU and RH-TRU waste, followed by whether it requires repackaging or treatment prior to shipment to WIPP, or whether there is a portion of it that can be certified and shipped directly without any need for either repackaging or treatment. The site nomenclature for an unsegregated waste stream is **IN-WXYZ**, whereas the nomenclature for any sub-streams resulting from this unsegregated stream is of the format **IN-WXYZ.ABC** etc. The fraction of the original unsegregated waste stream that is included in each sub-stream reported in the TWBIR Rev. 2 is stated under the Waste Stream Source description in each INEL waste stream profile. The Waste Stream Source description for a sub-stream also includes the phrases "Direct-ship" (i.e., it is certifiable and planned to be directly shipped to WIPP), "Cert-repack" (i.e., it will be certifiable upon repackaging) and "Uncertifiable" which refers to those sub-streams that will require treatment in order to become certifiable to the WIPP-WAC.

#### Notes on As-generated Containers

Since INEL did not submit any break-up of as-generated containers on a TWBIR sub-stream basis, this information has been derived (with the site's permission) from the percentages reported for each sub-stream in the Waste Stream Source description. For unsegregated waste streams with very small volumes (e.g., 1 to 10 drums), it was not always possible to precisely match the percentages reported in the source descriptions and allocate as-generated containers to each sub-stream. In such cases, the number of as-generated containers has been rounded off to the nearest integer. The as-generated volume of waste has been calculated using the same assumptions that have been used by the site, which is 0.212 m<sup>3</sup> for all drums, 3.17 m<sup>3</sup> for all boxes, 3.5 m<sup>3</sup> for all bins, and 0.212 m<sup>3</sup> for all inserts. However, for final waste form containers to be shipped to WIPP, the site assumed 0.208 m<sup>3</sup> as the volume of a 55-gallon drum. Because of the different assumptions for the volume of a drum between the as-generated waste and the final waste form, there may be minor discrepancies in the waste stream profiles for sub-streams that can be certified and shipped to WIPP without any repackaging or treatment.

#### Notes on Waste Material Parameters

INEL did not submit any waste material parameter data as part of the TWBIR Rev. 2 data submittal. Based on consultation and agreement with site representative(s), the TWBIR team has matched the waste streams reported in the Rev. 2 data submittal with their counterparts in Rev. 1 and thus assigned waste material parameters for each stream wherever possible.

#### Notes on the Final Waste Form Volume

Except for the waste streams that are expected to be directly shipped (upon WIPP-WAC certification) without any need for repackaging or treatment, no other waste streams are currently stored in final form. The uncertifiable streams are projected to be repackaged or treated at the site *at a later date*, as required, in order to be certifiable to the WIPP-WAC prior to their shipment to WIPP. However, for the purpose of reporting on the waste stream profiles, these uncertifiable streams are presented as "currently stored" in final form in order to avoid the error of double-counting these streams as both "currently stored" and "projected".

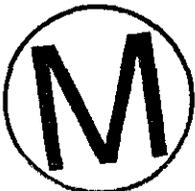


### Notes on Waste Stream Description

The waste stream description applies only to the unsegregated waste stream and is therefore the same for all sub-streams that originate from a given unsegregated waste stream.

### Notes on Handling Characteristics of Final Waste Form Containers

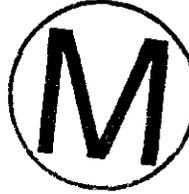
The handling characteristics (i.e., CH versus RH) of some of the waste streams may seem inconsistent with the waste stream description. This is because the handling (CH or RH) reflects the *expected* characteristics of the stream after it is repackaged or treated to meet the WIPP-WAC, whereas the waste stream description applies only to the unsegregated waste stream prior to any repackaging or treatment. All *apparent* discrepancies noted in the handling characteristics of a waste stream were brought to the site's attention during the BIR data review process, and the INEL site representative confirmed that the *expected* characteristics of the final form is what is presented in the data submittal.



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: IN-W112 Handling: RH NMVP #: N/A Stream Name: HEPA FILTERS Inventory Date: 12/30/99  
 Local ID: ID-CPP-172 Type: MTRU Generator Site: IN Final Waste Form: Unknown Waste Matrix Code: S5410

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES	
	Avg	Min	Max	Category:	Isotope ( Ci/ml )			
U328, U238,	Iron-base Metal/Alloys:	0.0	0.0	0.0	Defense TRU Waste	N/A	H-3	3.70E-07
U228, U227,	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		Ce-144	9.80E-06
U226, U225,	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		Co-60	1.16E-06
U220, U219,	Other Inorganic Material:	0.0	0.0	0.0	PCBs: No		Cs-134	1.00E-05
U218, U217,	Vitrified:	0.0	0.0	0.0	Source: Pollution Control or Waste Treatment Process		Cs-137	2.03E-04
U215, U211,	Cellulosics:	0.0	0.0	0.0			Am-241	5.50E-08
U210, U208,	Rubber:	0.0	0.0	0.0			Eu-155	1.89E-06
U207, U204,	Plastics:	0.0	0.0	0.0			Tc-99	1.12E-08
U201, U196,	Solidified Inorganic Material:	0.0	0.0	0.0			Ni-63	3.40E-08
U188, U182,	Solidified Organic Material:	0.0	0.0	0.0			Np-237	2.40E-09
U171, U170,	Cement (solidified):	0.0	0.0	0.0			Pu-238	4.80E-07
U169, U165,	Soils:	0.0	0.0	0.0			Pu-239	6.30E-08
U162, U159,	Packaging Material Steel:	0.0					Ru-106	4.50E-06
U151, U147,	Packaging Material Plastic:	0.0					Sb-125	7.80E-07
U145, U144,	Packaging Material Lead:	0.0					Sr-90	2.17E-04
U140, U138,	Packaging Material Steel Plug:	0.0					Eu-154	2.54E-06
U135, U134,								
U133, U131,								
U128, U127,								



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes					Final Waste Form Volumes							
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
As-Generated Form:	Stored:	0.0	Projected:	0.0	Total:	0.0	Final Waste Form:	Stored:	0.0	Projected:	0.0	Total:	0.0

**WASTE STREAM DESCRIPTION** HEPA filters for off-gas cleaning of ventilation. The filters are considered MTRU waste because they are derived from treatment of HLW and spent fuel processing that contain TRU constituents. HEPA filters from CPP-633 and 659 may contain F, P, and U listed waste codes resulting from laboratory quantities of waste dumped to the ICPP waste systems filtered by these HEPA filters.

This waste stream contains nine NWCF (New Waste Calcining Facility) off-gas filters previously reported as part of ID-EGG-118-158, NWCF Filters. These waste streams have been combined and ID-EGG-118-158 has been made inactive.

**WASTE STREAM SOURCE** This waste stream was generated at CPP-659, CPP-633: Primarily from system HEPA filters for off-gas cleaning from processing HLW and spent fuel waste. The generating process is: Waste generated from the off-gas cleaning HEPA filters associated with operation of the waste calciner's located in CPP-659 and CPP-633. This waste stream will be treated at INEL and is not supposed to be shipped to WIPP.

**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** The HEPA filters from CPP-659 and CPP-633 filter off-gas from systems that treat waste containing large quantities of TCLP metals (i.e., hundreds to thousands ppm). Therefore, these filters are most likely to have metals in concentrations which equal or exceed TCLP levels. EPA waste codes were obtained from HFLS Part A submitted in the Part B Permit application dated 7/93.

**MANAGEMENT COMMENTS** N/A

**ACCEPTANCE COMMENTS** N/A

**FINAL FORM COMMENTS**



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: IN-Z001    Handling: U    NMVP #: N/A    Stream Name: INEL Buried TRU Waste    Inventory Date:  
 Local ID:    Type: TRU    Generator Site:    Final Waste Form: Unknown    Waste Matrix Code:

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:			
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Defense TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos:		
	Other Inorganic Material:	0.0	0.0	0.0	PCBs:		
	Vitrified:	0.0	0.0	0.0	Source:		
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	0.0					
	Packaging Material Plastic:	0.0					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Not contained	31000.0	0.0	0.0	0.0	0.0	31000.0							
<b>Totals</b>	<b>31000.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>31000.0</b>							

**As-Generated Form:**    Stored: 31000.0    Projected: 0.0    Total: 31000.0    **Final Waste Form:**    Stored: 0.0    Projected: 0.0    Total: 0.0

**WASTE STREAM DESCRIPTION** N/A**WASTE STREAM SOURCE**

The INEL disposed of approximately 57,000 m<sup>3</sup> of TRU-contaminated waste in the Radioactive Waste Management Complex Subsurface Disposal Area up until 1970. It is planned to retrieve and treat 100% of the buried TRU waste, subject to the Record of Decision in 1998. Remediation efforts with Pit 9 are expected to begin in August 1996. Remaining TRU pits and trenches would be remediated in 2003-2016. The anticipated treatment will be vitrification, producing 31,000 m<sup>3</sup> (1.01e08 kg) of vitrified product that will be stored in 55-gallon drums until final disposition. This waste will not go to WIPP.

**CURRENT CONTAINER COMMENTS** N/A**EPA COMMENTS****MANAGEMENT COMMENTS** N/A**ACCEPTANCE COMMENTS** N/A**FINAL FORM COMMENTS**

**KA Knolls Atomic Power Laboratory - Schenectady**

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## **KNOLLS ATOMIC POWER LABORATORY**

### **Location and Description**

Knolls Atomic Power Laboratory (KA) is located in Niskayuna, New York, about 3.2 km east of Schenectady. KA is operated by KAPL, Inc., a wholly owned subsidiary of the Martin Marietta Corporation under contract to the DOE. KA is a component of the Naval Nuclear Propulsion Program, and provides basic research and design on nuclear propulsion plants for Navy submarines. Facilities at the site include machine shops, waste-handling facilities, a boiler house, and chemistry, physics, and metallurgy laboratories.

### **Mission**

The primary mission of KA is the design and testing of naval nuclear propulsion plants and reactor components. KA also provides fuel sample investigation support for the Idaho National Engineering Laboratory .

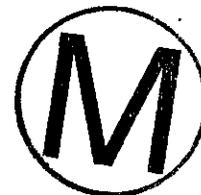
### **Waste Information**

#### **Processes**

KA manages both CH and RH TRU heterogeneous debris. The TRU waste generated at KA is a result of the destructive evaluation of irradiated test specimens. KA has established a radioactive waste minimization practices program, including waste stream review, work planning, and waste stream segregation.

### **Modifications/Assumptions/Development**

Waste streams that are expected to be directly shipped to WIPP (upon WIPP-WAC certification) without any need for repackaging or treatment are reported as "currently stored" in final form volume. For waste streams that are currently stored but are projected to be repackaged and/or treated at a later date prior to their shipment to WIPP, are also reported as "currently stored." This is done in order to avoid the error of double-counting these streams as both "as generated currently stored" and "final form projected."



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: KA-T001 | Handling: RH | NMVP #: NA | Stream Name: Transuranic Debris | Inventory Date: 12/31/94  
 Local ID: KA-T001 | Type: TRU | Generator Site: KA | Final Waste Form: Heterogeneous | Waste Matrix Code: X7000

**AS-GENERATED EPA CODES**

N/A

	WASTE MATERIAL PARAMETERS (kg/m3)		
	Avg	Min	Max
Iron-base Metal/Alloys:	98.2	0.0	1634.6
Aluminum-base Metal/Alloys:	0.0	0.0	1.6
Other Metals/Alloys:	0.1	0.0	22.7
Other Inorganic Material:	2.4	0.0	24.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	80.0	0.0	184.6
Rubber:	7.3	0.0	16.4
Plastics:	64.9	0.0	149.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	0.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	131.0		
Packaging Material Plastic:	37.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

**FINAL WASTE FORM DESCRIPTORS**

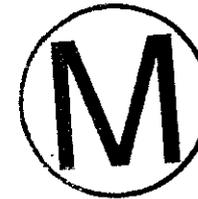
Category: Non-Defense TRU Waste  
 Residues: No  
 Asbestos: No  
 PCBs: No  
 Source: R&D/R&D Laboratory Waste

**TRUCON CODE**

N/A

**FINAL FORM RADIONUCLIDES**

Isotope ( Ci/m3 )	
Y-90	9.60E-01
Sr-90	9.60E-01
Pu-242	2.60E-06
Pu-241	1.30E-01
Pu-240	4.20E-04
Pu-239	4.90E-04
Pu-238	3.10E-01
MFP	4.60E-01
Cs-137	9.60E-01
Co-60	5.00E-02
Ba-137m	9.20E+01
Am-241	7.20E-03

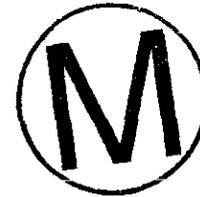


**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
RH Canister / 5-gallon	0.2	0.5	0.9	1.8	1.8	5.2	55 Gallon Drum	2.5	5.0	8.9	18.7	18.7	53.9
Totals	0.2	0.5	0.9	1.8	1.8	5.2	Totals	2.5	5.0	8.9	18.7	18.7	53.9

As-Generated Form: Stored: 0.2 Projected: 4.9 Total: 5.2 | Final Waste Form: Stored: 2.5 Projected: 51.4 Total: 53.9

<b>WASTE STREAM DESCRIPTION</b>	Organic and inorganic particulate and debris.
<b>WASTE STREAM SOURCE</b>	Waste from laboratory testing and analysis.
<b>CURRENT CONTAINER COMMENTS</b>	N/A
<b>EPA COMMENTS</b>	Material in this waste stream is not a hazardous waste.
<b>MANAGEMENT COMMENTS</b>	N/A
<b>ACCEPTANCE COMMENTS</b>	The current inventory identified in section 4.1.2.1 and the projected generation identified in section 5.1.3 consists of stored TRU which has not been completely characterized. It is expected that 50% of this material will be finally classified as LLW or MLLW. It is expected that 10% of this material will be finally classified as MTRU waste (KA-W016). The remainder will be finally classified as TRU waste. Data date is 12/31/94.
<b>FINAL FORM COMMENTS</b>	KAPL expects that once the 5 gallon container is in the 55 gallon drum, the 55 gallon drum will be CH, but that would not change the characterization of the waste.



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: KA-W016    Handling: RH    NMVP #: NA    Stream Name: Transuranic Debris    Inventory Date: 12/31/94  
 Local ID: KA-W016    Type: MTRU    Generator Site: KA    Final Waste Form: Heterogeneous    Waste Matrix Code: S5000

**AS-GENERATED EPA CODES**

F005, F003, F002,  
 F001, D040, D039,  
 D035, D018,  
 D011, D010,  
 D009, D008,  
 D007, D006,  
 D005, D004

WASTE MATERIAL PARAMETERS (kg/m3)	WASTE MATERIAL PARAMETERS (kg/m3)		
	Avg	Min	Max
Iron-base Metal/Alloys:	98.2	0.0	1634.6
Aluminum-base Metal/Alloys:	0.0	0.0	1.6
Other Metals/Alloys:	0.1	0.0	22.7
Other Inorganic Material:	2.4	0.0	24.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	80.9	0.0	184.5
Rubber:	7.3	0.0	16.4
Plastics:	64.9	0.0	149.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	0.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	131.0		
Packaging Material Plastic:	37.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

**FINAL WASTE FORM DESCRIPTORS**

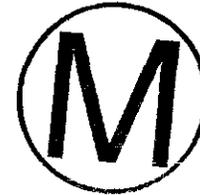
Category: Non-Defense TRU Waste  
 Residues: No  
 Asbestos: No  
 PCBs: No  
 Source: R&D/R&D Laboratory Waste

**TRUCON CODE**

N/A

**FINAL FORM RADIONUCLIDES**

Isotope ( Ci/m3 )	
Y-90	9.60E-01
Sr-90	9.60E-01
Pu-242	2.60E-06
Pu-241	1.30E-01
Pu-240	4.20E-04
Pu-239	4.90E-04
Pu-238	3.10E-01
MFP	4.60E-01
Cs-137	9.60E-01
Co-60	5.00E-02
Ba-137m	9.20E+01
Am-241	7.20E-03



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
RH Canister / 5-gallon	0.0	0.1	0.1	0.2	0.2	0.7	55 Gallon Drum	0.0	1.2	1.5	2.1	2.1	6.9
Totals	0.0	0.1	0.1	0.2	0.2	0.7	Totals	0.0	1.2	1.5	2.1	2.1	6.9

As-Generated Form:    Stored: 0.0    Projected: 0.7    Total: 0.7    Final Waste Form:    Stored: 0.0    Projected: 6.9    Total: 6.9

**WASTE STREAM DESCRIPTION** This transuranic mixed waste has not yet been generated. Waste will be segregated to the extent possible (considering ALARA) into inorganic, organic and heterogeneous waste streams and packaged separately. Details of waste characteristics will be developed upon generation. This waste stream will not be moratorium waste.

**WASTE STREAM SOURCE** Waste generated through R&D programs

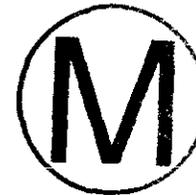
**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** This waste has not yet been generated. The identification of hazardous constituents listed is based on process knowledge of potential contaminants.

**MANAGEMENT COMMENTS** N/A

**ACCEPTANCE COMMENTS** This data is consistent with the data provided to the State and EPA in the Proposed Site Treatment Plan. Data date is 12/31/94.

**FINAL FORM COMMENTS** N/A



**LA**

**Los Alamos National Laboratory**

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## LOS ALAMOS NATIONAL LABORATORY

### Location and Description

The Los Alamos National Laboratory (LANL) is located approximately 97 kilometers north of Albuquerque and 40 kilometers west of Santa Fe in Los Alamos County, New Mexico. The laboratory facilities are dispersed among numerous Technical Areas (TAs) spread over a 111-square kilometer site on the Pajarito Plateau. The plateau consists of several finger-like mesas extending eastward from the Jemez Mountains to the Rio Grande Valley with steep eroded canyons separating the mesas. The elevation of the mesas range from 1890 to 2377 meters. Some TAs are located in canyons.

The Los Alamos effort was the beginning of what is today the nationwide Albuquerque Operations Office laboratory and industrial complex of the DOE.

### Mission

The Los Alamos Scientific Laboratory was established in 1943 by the U.S. Army's Manhattan Engineer District for the purpose of developing the first atomic bombs. Known as the Los Alamos Scientific Laboratory for many years, the name was changed to the Los Alamos National Laboratory in December 1980. LANL was the research, development, engineering design, and testing center for the Manhattan Project. The mission was the application of science and technology to problems of national security, including the maintenance of a strong defense, the fulfillment of arms controls commitments and the guarantee of a secure energy supply for the future.

During the wartime Manhattan Project, Los Alamos, New Mexico, was wholly-owned and controlled by the Government.

LANL's mission since World War II has included nuclear device design, research, development, testing, stockpile certification, and plutonium storage. Major programs currently include research in nuclear and conventional weapons development; nuclear fission and fusion; nuclear safeguards and security; verification and control technologies; fundamental research in particle physics, mathematics, chemistry, and materials; and waste management technology development and testing.

Research on peaceful uses of nuclear energy has included space applications, power reactor programs, magnetic and inertial fusion, radiobiology, and medicine. Other programs include astrophysics, earth sciences, lasers, computer sciences, solar energy, geothermal energy, biomedical and environmental research, and nuclear waste management research.

Today, the Waste Management Facilities Operations Group, CST-27, is responsible for all waste management facilities at LANL, except those related to high-explosives waste and sanitary waste, and those operated by waste generators in preparing their wastes for disposal. The Waste Management Program includes treating radioactive liquid and solid waste; packaging, transporting, treating, and disposing of hazardous chemical waste; and operating the disposal and storage sites for mixed waste. The Waste Management Program provides treatment, storage and disposal for Environmental Restoration Program-generated waste.



## Waste Information

### Processes

Major CH TRU waste generators at LANL are: Analytical Chemical Group (CHM-1), Nuclear Fuel Development and Facilities Operations Group (MST-11), Nuclear Materials Process Technology Group (MST-12), and Plutonium Metal Technology Group (MST-13).

RH TRU waste is generated by the Irradiated Materials Examination Group (MST-14).

CHM-1 is involved in analysis of radioactive materials. The waste generated by CHM-1 are combustibles (paper, rags, plastics, rubber) and non-combustibles (glass, ceramic, porcelain, metal, transite, chemicals, and equipment).

Wastes generated in MST-12 are process residues in solid and liquid TRU waste streams left when all economically recoverable quantities of special nuclear materials have been removed from a nuclear material item.

The wastes generated in MST-13 are combustible solids, noncombustible scrap (small tools, cans, small equipment items), and cemented process residues (process leached solids, filter cakes, and evaporator bottoms) stabilized in Portland or Gypsum cement.

The Size Reduction Facility's waste consists of metal equipment, either whole or sectional along with its combustible components, and the small volumes of combustibles generated during decommissioning, sectioning, and packaging (mostly gloveboxes, process equipment, and ductwork from decommissioning operations).

MST-14 generates both contact and remote handled solid wastes from hot cell operations.

### Modifications/Assumptions/Development

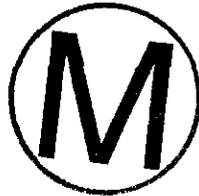
LANL reported radionuclides in total Curies. The TWBIR team used the volumes reported for each waste stream to calculate the radionuclides in terms of Ci/m<sup>3</sup>.

LANL's waste material parameters Solidified, Inorganic Matrix and Cement (Solidified) for waste streams LA-M002, LA-W003, LA-W006, LA-T002, and LA-T006 were calculated based on the proposed amount of cement that will be used to solidify these waste streams.

For final form containers, the estimated generation for newly generated waste was reported in the years 1995 to 2000. For the years 2001 to 2022 a bulk amount was reported. The TWBIR team converted this bulk amount into containers/year, assuring a constant generation rate per year between 2001 and 2022.

LANL assumes the internal volume for a 85 gallon drum used to overpack a 55 gallon drum is 0.208 m<sup>3</sup>. This is assumed because all waste from 55 gallon drums that are currently overpacked in 85 gallon drums will be repackaged into 55 gallon drums for shipment to WIPP (upon WIPP-WAC certification).

Waste streams that are expected to be directly shipped to WIPP (upon WIPP-WAC certification) without any need for repackaging or treatment are reported as "currently stored" in final form volume. For waste streams that are currently stored but are projected to be repackaged and/or treated at a later date prior to their shipment to WIPP, are also reported as "currently stored." This is done in order to avoid the error of double-counting these streams as both "as generated currently stored" and "final form projected."



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: LA-Z001    Handling: U    NMVP #: N/A    Stream Name: Los Alamos National Laboratory Buried TRU Waste    Inventory Date:  
 Local ID:    Type: TRU    Generator Site:    Final Waste Form: Unknown    Waste Matrix Code:

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:			
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Defense TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos:		
	Other Inorganic Material:	0.0	0.0	0.0	PCBs:		
	Vitrified:	0.0	0.0	0.0	Source:		
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	0.0					
	Packaging Material Plastic:	0.0					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes					Final Waste Form Volumes							
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Not contained	14000.0	0.0	0.0	0.0	0.0	14000.0							
Totals	14000.0	0.0	0.0	0.0	0.0	14000.0							

As-Generated Form:    Stored: 14000.0    Projected: 0.0    Total: 14000.0    Final Waste Form:    Stored: 0.0    Projected: 0.0    Total: 0.0

WASTE STREAM DESCRIPTION N/A

WASTE STREAM SOURCE A total of approximately 14,000 m3 of TRU-contaminated waste is buried at the Los Alamos National Laboratory site. As of December 31, 1991, the radioactivity from the TRU radionuclides associated with this volume of buried waste is estimated to be 9,230 Curies. This waste will not go to WIPP.

CURRENT CONTAINER COMMENTS N/A

EPA COMMENTS

MANAGEMENT COMMENTS N/A

ACCEPTANCE COMMENTS N/A

FINAL FORM COMMENTS



**LB**

**Lawrence Berkeley Laboratory**

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## **LAWRENCE BERKELEY LABORATORY**

### **Location and Description**

Lawrence Berkeley Laboratory (LB) is located in an urban environment on 130 acres across the bay from San Francisco, California, in the hills overlooking the University of California-Berkeley. The site is bordered on the north by predominately single-family homes, and on the west by multi-unit dwellings, student residence halls, and commercial districts.

### **Mission**

LB is operated by the University of California for DOE. Its mission is to: 1) perform multidisciplinary research in the energy sciences, general sciences, and life sciences; 2) develop and operate unique national experimental facilities that are available to qualified investigators; and 3) transfer knowledge and technologies innovations and foster productive relationships between LB and research programs, universities, and industry to promote national economic competitiveness. In addition, LB provides scientific support to DOE through operation of particle accelerators, chemistry and biomedical research laboratories, and support facilities.

### **Waste Information**

#### **Processes**

TRU waste was generated as a result of several activities including research activities performed in the chemical sciences and earth sciences areas. Typical research areas included the determination of the solubility and speciation of actinide elements in various sample acids and acidic brines. LB's TRU waste also came from the removal of sources from smoke detectors.

The TRU Waste generated by LB for past DOE projects does not currently fit into the defense category, making LB one of the small generator sites with waste not acceptable to WIPP. The waste generated on-site is now being packaged for shipment off-site for interim storage at Hanford's Solid Waste Treatment, Storage, and Disposal Facility.

### **Modifications/Assumptions/Development**

Waste streams that are expected to be directly shipped to WIPP (upon WIPP-WAC certification) without any need for repackaging or treatment are reported as "currently stored" in final form volume. For waste streams that are currently stored but are projected to be repackaged and/or treated at a later date prior to their shipment to WIPP, are also reported as "currently stored." This is done in order to avoid the error of double-counting these streams as both "as generated currently stored" and "final form projected."



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: LB-T001

Local ID:

AS-GENERATED  
EPA CODES

Handling: CH  
Type: TRU

NMVP #: N/A  
Generator Site:

Stream Name: LBL - Waste  
Final Waste Form: Heterogeneous

Inventory Date: 5/31/95  
Waste Matrix Code:

N/A

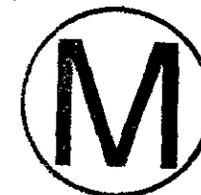
WASTE MATERIAL PARAMETERS (kg/m3)	Avg Min Max		
	Iron-base Metal/Alloys:	390.0	40.0
Aluminum-base Metal/Alloys:	0.0	0.0	0.0
Other Metals/Alloys:	425.0	50.0	850.0
Other Inorganic Material:	0.0	0.0	0.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	150.0	60.0	200.0
Rubber:	0.0	0.0	0.0
Plastics:	450.0	150.0	600.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	150.0	50.0	250.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	131.0		
Packaging Material Plastic:	37.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

**FINAL WASTE FORM DESCRIPTORS**

Category: Non-Defense TRU Waste  
Residues: No  
Asbestos: No  
PCBs: No  
Source: R&D/R&D Laboratory Waste

**TRUCON CODE**

UNK



**FINAL FORM RADIONUCLIDES**

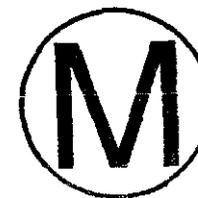
Isotope ( Ci/m3 )	
U-233	4.81E-03
Ra-226	3.38E-02
Pu-242	1.01E-02
Pu-240	5.05E-03
Pu-238	2.54E-04
Es-254	5.29E-03
Es-253	4.81E-04
Cm-244	1.19E-01
Cf-250	4.81E-05
Cf-249	3.16E-03
Am-243	3.85E-02
Am-241	9.32E-02

**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Drum / 55-gallon	0.6	0.0	0.2	0.4	0.4	1.7	55 Gallon Drum	0.6	0.0	0.2	0.4	0.4	1.7
<b>Totals</b>	<b>0.6</b>	<b>0.0</b>	<b>0.2</b>	<b>0.4</b>	<b>0.4</b>	<b>1.7</b>	<b>Totals</b>	<b>0.6</b>	<b>0.0</b>	<b>0.2</b>	<b>0.4</b>	<b>0.4</b>	<b>1.7</b>

As-Generated Form: Stored: 0.6 Projected: 1.0 Total: 1.7 Final Waste Form: Stored: 0.6 Projected: 1.0 Total: 1.7

<b>WASTE STREAM DESCRIPTION</b>	Transuranic wastes with isotopes only
<b>WASTE STREAM SOURCE</b>	The LBL is operated by UC for DOE and performs multi-disciplinary research in the energy sciences, life sciences, and general sciences. During the research a small amount of TRU waste is generated.
<b>CURRENT CONTAINER COMMENTS</b>	N/A
<b>EPA COMMENTS</b>	Data of regulated contaminant characteristics is solely provided by generators. No laboratory chemical analysis has been performed to verify these data.
<b>MANAGEMENT COMMENTS</b>	N/A
<b>ACCEPTANCE COMMENTS</b>	N/A
<b>FINAL FORM COMMENTS</b>	N/A



MD

Mound Plant

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## **MOUND PLANT**

### **Location and Description**

Mound (MD) is located within the southern city limits of Miamisburg in Montgomery County in southwestern Ohio. The plant occupies 306 acres of land overlooking Miamisburg and the Great Miami River. The metropolitan area of Dayton is located 10 miles north-northeast of Mound.

The DOE Dayton Area Office was established as part of the Albuquerque Operations Office in 1947.

The Mound Plant (MD) is one of the principal DOE sites. The facility was utilized as an integrated research, development, and production facility to perform work in support of DOE weapons and energy programs. Mound manufactured non-nuclear and tritium-containing components for nuclear weapons. These components included detonators, timers, transducers, firing sets, pellets, and unique production testers. Activities also included recovery and purification of tritium wastes. Earlier activities included manufacturing of polonium-210 and plutonium-238 radioisotopic heat sources.

### **Mission**

Mound originated as a technical organization in 1943 and was responsible for determining the chemical and metallurgical properties of plutonium for the Manhattan Project. Permanent facilities were first constructed in 1947 and occupied in 1948. The plant was assigned new production and development functions in 1955.

In 1993, the Secretary of Energy announced that the Defense Program Mission was to be ended at Mound. Mound's new mission is the safe shutdown of Defense Programs and commercialization of some of the area offices.

### **Waste Information**

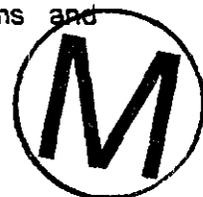
#### **Processes**

TRU waste may be generated by the Decontamination and Decommissioning (D&D) operations in the Plutonium Processing Building and the Research Building.

Large quantities of the line-generated solid wastes, including gloveboxes, fume hoods, piping, tools and other non-burnables, as well as rags, chemwipes, and other combustible waste was and will be generated by the Pu Processing and Research Buildings D&D Project.

TRU alpha wastes are generated from decontamination operations in the Pu Processing Areas.

Other major D&D efforts included the removal of underground piping which formerly transmitted Pu-contaminated liquid waste from the processing area to the waste water treatment facility.



**Modifications/Assumptions/Development**

Waste streams that are expected to be directly shipped to WIPP (upon WIPP-WAC certification) without any need for repackaging or treatment are reported as "currently stored" in final form volume. For waste streams that are currently stored but are projected to be repackaged and/or treated at a later date prior to their shipment to WIPP, are also reported as "currently stored." This is done in order to avoid the error of double-counting these streams as both "as generated currently stored" and "final form projected."



Appendix O

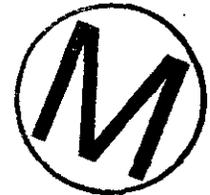
DOE/CAO-95-1121

TWBIR ID: MD-T004

**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID:MD-T004 Handling:CH NMVP #:N/A Stream Name:Uncategorized unknowns Inventory Date: 5/5/95  
 Local ID:IN/A Type:TRU Generator Site:MD Final Waste Form:Unknown Waste Matrix Code:Z9000

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES	
	Avg	Min	Max	Category:	Isotope ( Ci/m3 )			
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Defense TRU Waste	N/A	Pu-240	2.00E+01
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		Pu-239	3.70E-01
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		Pu-238	5.16E+01
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: No			
	Vitrified:	0.0	0.0	0.0	Source: Source Unknown			
	Cellulosics:	0.0	0.0	0.0				
	Rubber:	0.0	0.0	0.0				
	Plastics:	0.0	0.0	0.0				
	Solidified Inorganic Material:	0.0	0.0	0.0				
	Solidified Organic Material:	0.0	0.0	0.0				
	Cement (solidified):	0.0	0.0	0.0				
	Soils:	0.0	0.0	0.0				
	Packaging Material Steel:	150.4						
	Packaging Material Plastic:	20.9						
	Packaging Material Lead:	0.0						
	Packaging Material Steel Plug:	0.0						



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55 Gallon Drum	4.2	0.0	0.0	0.0	0.0	4.2	55 Gallon Drum	4.2	0.0	0.0	0.0	0.0	4.2
Box / Type 003	2.3	0.0	0.0	0.0	0.0	2.3	Standard Waste Box	22.7	0.0	0.0	0.0	0.0	22.7
Box / Type 004	21.0	0.0	0.0	0.0	0.0	21.0	<b>Totals</b>	<b>26.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>26.8</b>
<b>Totals</b>	<b>27.5</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>27.5</b>							

As-Generated Form: Stored: 27.5 Projected: 0.0 Total: 27.5 Final Waste Form: Stored: 26.8 Projected: 0.0 Total: 26.8

**WASTE STREAM DESCRIPTION** MOST (>50%) INPUT FORMS DO NOT HAVE ANY INFORMATION AS TO WHAT MAY BE INSIDE. THIS WASTE IS EVERYTHING THAT DOES NOT FIT IN THE OTHER STREAMS OR THERE IS TOO LITTLE INFORMATION AVAILABLE TO CATEGORIZE INTO ONE OF THE OTHER STREAMS.

**WASTE STREAM SOURCE** Uncategorized TRU waste.

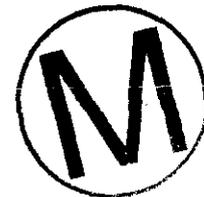
**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** Confidence level based on the number of unknowns

**MANAGEMENT COMMENTS** N/A

**ACCEPTANCE COMMENTS** N/A

**FINAL FORM COMMENTS** N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: MD-W018    Handling: CH    NMVP #: N/A    Stream Name: PCB TRU WASTE    Inventory Date: 5/5/95  
 Local ID: N/A    Type: TRU    Generator Site: MD    Final Waste Form: Unknown    Waste Matrix Code: U9999

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:			
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Defense TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: Yes		
	Vitrified:	0.0	0.0	0.0	Source: Facility/Equipment Operation and Maintenance Waste		
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	153.7					
	Packaging Material Plastic:	0.4					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					

**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55 Gallon Drum	0.2	0.0	0.0	0.0	0.0	0.2	55 Gallon Drum	0.2	0.0	0.0	0.0	0.0	0.2
LLW Box	2.8	0.0	0.0	0.0	0.0	2.8	Standard Waste Box	18.9	0.0	0.0	0.0	0.0	18.9
<b>Totals</b>	<b>3.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>3.0</b>	<b>Totals</b>	<b>19.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>19.1</b>

As-Generated Form:    Stored: 3.0    Projected: 0.0    Total: 3.0    Final Waste Form:    Stored: 19.1    Projected: 0.0    Total: 19.1



**WASTE STREAM DESCRIPTION** PCB contaminated waste. Its origin is unknown. There is no paperwork or any other information about this waste.

**WASTE STREAM SOURCE** PCB contaminated waste. Only information known at present (6/6/95) is the outside type and volume of the outside container. There is a press is inside a plywood box which is inside the LLW box.

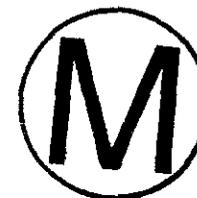
**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** Confidence level is low due to the number of unknowns.

**MANAGEMENT COMMENTS** N/A

**ACCEPTANCE COMMENTS** N/A

**FINAL FORM COMMENTS** Storage and shipping container were assumed to be the same



OR

Oak Ridge Reservation

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## **OAK RIDGE NATIONAL LABORATORY**

### **Location and Description**

The Oak Ridge National Laboratory (ORNL) is located 10 miles southwest of downtown Oak Ridge, Tennessee, and 32 kilometers northwest of Knoxville, Tennessee. The ORNL site occupies about 10,000 acres of the 35,252 acre Oak Ridge Reservation. The site covers portions of both Melton and Bethel Valleys. Approximately 1100 acres within the Melton and Bethel Valleys have been developed.

The ORNL is under the auspices of the DOE/Oak Ridge Operations Office which supports production of nuclear weapon components for national defense programs, production of enriched uranium for defense requirements and for fuelling nuclear power plants, the processing of uranium feed materials for DOE's plutonium production reactors, and extensive energy research and development in all DOE program areas.

### **Mission**

ORNL was established in 1942 in support of the Manhattan Project. The primary mission of ORNL has been to carry out applied research and engineering development in fission, fusion, and other energy technologies, and to conduct scientific research in basic physical and life sciences. Relevant missions include isotope production and processing, research and development, waste management, and D&D of operating units, and advanced reactor development work. In addition, ORNL conducts several activities for DOE Defense Programs. The principal nonweapons-related activities include nuclear power development and magnetic fusion research. ORNL conducts activities in support of DOE's Transuranic Element Program, the Californium and Loan Program, and the Mark 42 Program.

During the wartime Manhattan Project, the town of Oak Ridge, Tennessee, was wholly-owned and controlled by the Government.

### **Waste Information**

#### **Processes**

The Y-12 Plant was built originally as part of the Manhattan Project to separate and concentrate uranium-235 isotopes by the electromagnetic process. With the successful demonstration of the more efficient gaseous diffusion process, the plant was modified to carry out other weapons production operations. The major operations at the Y-12 Plant were production of weapon components, uranium, uranium alloys, and lithium compounds that were shipped to other sites.

The K-25 Site (formerly the Oak Ridge Gaseous Diffusion Plant) was a production and development facility for uranium enrichment using a gaseous diffusion process. Production operations were shut down in 1985. The current mission of K-25 involves environmental restoration, decontamination and decommissioning, and waste management. DOE's TSCA incinerator is located at the K-25 site.



Waste streams at ORNL tend to be different from K-25 and Y-12 waste streams in that they are smaller in volume, constantly changing, and could contain virtually any radionuclide, depending on the research activity that generated the waste stream. In these respects, they are probably similar to the waste streams generated at all the national labs. Of the three main facilities at ORR, only ORNL generates TRU waste (from research reactors), although K-25 and Y-12 waste streams may contain concentrations of transuranic isotopes below 100 nanocuries per gram.

In contrast, the waste generating processes at K-25 and Y-12 tend to be stable and have their own signature isotopes. Waste streams at K-25 may often be contaminated with technicium, either depleted or enriched uranium, and trace concentrations of transuranics. Y-12 waste streams are also often contaminated with depleted or enriched uranium. Some waste streams at Y-12 are derived from classified activities; data about these waste streams are also classified.

Most of the TRU waste residing at ORNL has been generated as a result of the Californium and U-233 Program or has come from off-site waste generators. Additional TRU waste is produced by the ORNL Analytical Chemistry facilities as a result of sample analysis. Some TRU waste may also be generated by the K-25 Site during decontamination and decommissioning activities.

RH-TRU solid waste consists primarily of miscellaneous hot-cell waste (e.g., paper, glass, plastic tubing, shoe covers, wipes, etc.), HEPA filters from off-gas cleanup systems, and discarded equipment (e.g., chemical processing racks, vacuum pumps, etc.). The unshielded individual waste packages within the casks typically have radiation levels that measure between 10 and 2000 rem/h; the majority are below 100 rem/h. RCRA materials in RH TRU solid waste primarily consist of lead that was used as shielding, and limited amounts of mercury from discarded mercury-vapor lamps. The RH TRU solid waste is typically contained in cylindrical concrete casks 1.4 m (4.5 ft) in diameter by 2.3 m (7.5 ft) high. Wall thickness of the casks are currently either 15.2 or 30.5 cm (6 or 12 in) thick, depending on the radiation level of the contents.

The majority of RH TRU sludges at ORNL are the result of waste accumulation from the past 50 years of ORNL liquid waste operations. These sludges are residuals from sluicing operations conducted in the early 1980s when the majority of the inactive gunite tank contents were removed for hydrofracture disposal at ORNL. RH TRU sludges continue to accumulate due to on-going R&D programs which produce transuranium isotopes for medical, industrial, and government applications. The surface equivalent dose rates of these sludges are generally near 10 rem/h (unshielded).

Most CH TRU waste is generated at ORNL by activities related to isotope research and production, including analytical support. The waste results primarily from hot cell and glovebox operations, and most of it can be accommodated in 55-gallon drums.

CH TRU waste at ORNL consists of general laboratory wastes such as various glassware, plastic ware, empty reagent bottles, vials, and other containers, cloth and paper wipes, rubber and cotton gloves, contaminated clothing, gaskets and other rubber parts, metal parts, tools and machinery, electrical equipment, ion-exchange resins, ventilation filters, and other general waste generated during the operation of gloveboxes and hot cells. A given container of waste may contain several different TRU radionuclides.



One of ORNL's offsite generators is the Paducah Gaseous Diffusion Plant (PA) in Kentucky serves as the first stage in the DOE uranium enrichment complex. TRU isotopes have been separated from the uranium feed and collected at the bottom of the cascade. Some drums containing TRU waste have been shipped to ORNL for storage while the remaining TRU waste containers continue to be stored at PA.

Nuclear Fuels Services, Inc. (NFS) at Erwin, Tennessee, sent 800+ drums of CH TRU waste to ORNL.

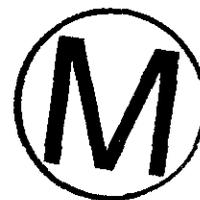
Other off-site generators include the New Brunswick Laboratory, West Valley Decommissioning Project, and the Knolls Atomic Power Laboratory.

### **Modifications/Assumptions/Development**

ORNL reported radionuclides in total Curies. The TWBIR team calculated the radionuclides in terms of Ci/m<sup>3</sup> using the final waste form volumes reported by OR.

ORNL's waste material parameters Solidified, Inorganic Matrix and Cement (Solidified) for waste streams OR-W042 and OR-W046 were calculated based on the proposed amount of cement that will be used to solidify these waste streams.

Waste streams that are expected to be directly shipped to WIPP (upon WIPP-WAC certification) without any need for repackaging or treatment are reported as "currently stored" in final form volume. For waste streams that are currently stored but are projected to be repackaged and/or treated at a later date prior to their shipment to WIPP, are also reported as "currently stored." This is done in order to avoid the error of double-counting these streams as both "as generated currently stored" and "final form projected."



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: OR-W089 Handling: CH NMVP #: N/A Stream Name: CH-TRU Uncategorized (nonmixed) Inventory Date: 12/31/94  
 Local ID: T2303 Type: TRU Generator Site: OR Final Waste Form: Unknown Waste Matrix Code: S9000

**AS-GENERATED EPA CODES**

**WASTE MATERIAL PARAMETERS (kg/m3)**

**FINAL WASTE FORM DESCRIPTORS**

**TRUCON CODE**

**FINAL FORM RADIONUCLIDES**

N/A

	Avg	Min	Max
Iron-base Metal/Alloys:	96.2	0.0	1716.4
Aluminum-base Metal/Alloys:	0.0	0.0	1.6
Other Metals/Alloys:	0.0	0.0	21.3
Other Inorganic Material:	2.4	0.0	24.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	80.9	0.0	184.8
Rubber:	7.4	0.0	17.9
Plastics:	64.9	0.0	149.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	3.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	131.0		
Packaging Material Plastic:	37.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

Category: Defense TRU Waste  
 Residues: No  
 Asbestos:  
 PCBs: No  
 Source: Source Information Not Compiled

Unassigned

Isotope ( Ci/m3 )  
 Pu-238 1.72E+01



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Box /Metal	8.2	0.0	0.0	0.0	0.0	8.2	55 Gallon Drum	17.7	0.0	0.0	0.0	0.0	17.7
Box /Wood	5.1	0.0	0.0	0.0	0.0	5.1	Totals	17.7	0.0	0.0	0.0	0.0	17.7
Cask /Concrete	2.8	0.0	0.0	0.0	0.0	2.8							
Drum / 55-gallon	1.7	0.0	0.0	0.0	0.0	1.7							
Totals	17.8	0.0	0.0	0.0	0.0	17.8							

As-Generated Form: Stored: 17.8 Projected: 0.0 Total: 17.8 Final Waste Form: Stored: 17.7 Projected: 0.0 Total: 17.7

**WASTE STREAM DESCRIPTION** This waste stream consists of CH-TRU waste which has not been classified or characterized. It is believed that the physical form is either solid, liquid, mixed (both solid and liquid), or unknown and does not contain hazardous constituents. This waste is categorized as uncategorized (matrix code 9000).

**WASTE STREAM SOURCE** Hot Cell Waste, Radiochemical Processing for Isotope Separation and Purification

**CURRENT CONTAINER COMMENTS** Waste will have to be repackaged into acceptable containers for shipment and disposal.  
Waste will have to be repackaged into acceptable containers for shipment and disposal.

**EPA COMMENTS** N/A

**MANAGEMENT COMMENTS** Final treatment will be decided upon characterization and categorization of this waste stream. The waste currently stored in casks will have to be repackaged into acceptable containers for shipment and disposal.

**ACCEPTANCE COMMENTS** Bldg 118 is not designated as a TRU Storage Facility. The waste inside this building will be evaluated as being TRU or LLW. Bldg 7834 is a closed non-RCRA storage facility. The waste containers stored in this building will be evaluated to determine if they are mixed or non-mixed TRU since this is a non-RCRA facility.

**FINAL FORM COMMENTS** Prior estimates on weight distribution were given for this waste stream in section 8.2.14.1. The same estimates are used in this section. No newly generated waste is projected for this waste stream. 77 additional 55 gallon drums will be required to repack the existing waste.



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: OR-W090    Handling: RH    NMVP #: N/A    Stream Name: RH-TRU Uncategorized (nonmixed)    Inventory Date: 12/31/94  
 Local ID: T2305    Type: TRU    Generator Site: OR    Final Waste Form: Unknown    Waste Matrix Code: S9000

**AS-GENERATED  
EPA CODES**

**WASTE MATERIAL PARAMETERS (kg/m3)**

**FINAL WASTE FORM DESCRIPTORS**

**TRUCON CODE**

**FINAL FORM RADIONUCLIDES**

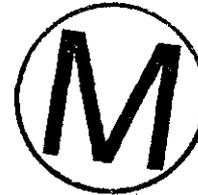
N/A

	Avg	Min	Max
Iron-base Metal/Alloys:	96.2	0.0	1716.4
Aluminum-base Metal/Alloys:	0.0	0.0	1.6
Other Metals/Alloys:	0.0	0.0	21.3
Other Inorganic Material:	2.4	0.0	24.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	80.9	0.0	184.8
Rubber:	7.4	0.0	17.9
Plastics:	64.9	0.0	149.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	3.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	526.0		
Packaging Material Plastic:	26.0		
Packaging Material Lead:	464.7		
Packaging Material Steel Plug:	2145.1		

Category: Defense TRU Waste  
 Residues: No  
 Asbestos:  
 PCBs: No  
 Source: Source Information Not Compiled

Unassigned

Isotope ( Ci/m3 )	
U-235	2.96E-04
U-233	5.30E-01
Th-232	2.46E-07



**WASTE VOLUME DETAIL (cu. meters)**

**As-Generated Waste Form Volumes**

**Final Waste Form Volumes**

Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Cask /Concrete	0.03	0.0	0.0	0.0	0.0	0.03
<b>Totals</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

Container	Stored	Pre-97	98-02	03-12	13-22	Totals
RH Canister used to overpack 55 gallon drums	0.9	0.0	0.0	0.0	0.0	0.9
<b>Totals</b>	<b>0.9</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.9</b>

**As-Generated Form:**    Stored: 0.03    Projected: 0.0    Total: 0.03

**Final Waste Form:**    Stored: 0.9    Projected: 0.0    Total: 0.9

**WASTE STREAM DESCRIPTION** This waste stream consists of RH-TRU waste which has not been classified or characterized. It is believed that the physical form is either solid, liquid, mixed (both solid and liquid), or unknown and does not contain hazardous constituents. This waste is categorized as uncategorized (matrix code 9000).

**WASTE STREAM SOURCE** Unknown

**CURRENT CONTAINER COMMENTS** This waste will have to be repackaged into acceptable containers.

**EPA COMMENTS** N/A

**MANAGEMENT COMMENTS** Final treatment will be decided upon characterization and categorization of this waste stream. The waste currently stored in casks will have to be repackaged into acceptable containers for shipment and disposal.

**ACCEPTANCE COMMENTS** Bldg 7829 is not designated as a TRU Storage Facility. The waste inside will be evaluated as being TRU or LLW. One container in this waste stream will be evaluated as possibly being Spent Nuclear Fuel.

**FINAL FORM COMMENTS** No prior estimates on weight distribution or Pu-239 FGEs were given for this waste stream because no 55-gallon drums were reported in the inventory and no waste is projected for the future. 1 RH canister used to overpack 55 gallon drums will be required to repack the existing waste.



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: OR-W091    Handling: CH    NMVP #: N/A    Stream Name: CH-TRU Heterogeneous Debris (nondefense)    Inventory Date: 12/31/94  
 Local ID: 2315    Type: MTRU    Generator Site: AR    Final Waste Form: Heterogeneous    Waste Matrix Code: S5490

**AS-GENERATED  
EPA CODES**

N/A



	WASTE MATERIAL PARAMETERS (kg/m3)		
	Avg	Min	Max
Iron-base Metal/Alloys:	96.2	0.0	1716.4
Aluminum-base Metal/Alloys:	0.0	0.0	1.6
Other Metals/Alloys:	0.0	0.0	21.3
Other Inorganic Material:	2.4	0.0	24.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	80.9	0.0	184.8
Rubber:	7.4	0.0	17.9
Plastics:	64.9	0.0	149.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	3.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	131.0		
Packaging Material Plastic:	37.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

**FINAL WASTE FORM DESCRIPTORS**

Category: Non-Defense TRU Waste  
 Residues: No  
 Asbestos:  
 PCBs: No  
 Source: Other/Multiple Sources

**TRUCON CODE**

Unassigned

**FINAL FORM RADIONUCLIDES**

Isotope ( Ci/m3 )	
Ra-226	4.71E+00
Pu-239	3.55E-01
Pu-238	4.84E+01
Am-241	1.01E+02

**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Drum / 55-gallon	0.8	0.0	0.0	0.0	0.0	0.8	55 Gallon Drum	1.0	0.0	0.0	0.0	0.0	1.0
Other	0.03	0.0	0.0	0.0	0.0	0.03	Totals	1.0	0.0	0.0	0.0	0.0	1.0
Totals	0.9	0.0	0.0	0.0	0.0	0.9							

As-Generated Form:    Stored:    0.9    Projected:    0.0    Total:    0.9    Final Waste Form:    Stored:    1.0    Projected:    0.0    Total:    1.0

<b>WASTE STREAM DESCRIPTION</b>	This waste stream consists of CH-TRU Waste which is classified as contaminated equipment, decontaminated debris or dry solids which were generated from nondefense programs. The physical form is solid and is suspected to contain hazardous constituents. It has not been determined if these wastes have been examined by WEAf. This waste is categorized as heterogeneous debris (matrix code 5490).
<b>WASTE STREAM SOURCE</b>	Sources and Sealed Sources
<b>CURRENT CONTAINER COMMENTS</b>	Other types of storage containers exist and will require repackaging into acceptable containers. Waste contents will require repackaging into an acceptable containers.
<b>EPA COMMENTS</b>	N/A
<b>MANAGEMENT COMMENTS</b>	This waste has been determined to come from nondefense related programs. Resolution of the nondefense issue for shipment to WIPP will have to take place prior to final disposal of this waste stream.
<b>ACCEPTANCE COMMENTS</b>	Bldg 7826 is a closed non-RCRA storage facility. The waste containers stored in this building will be evaluated to determine if they are mixed or non-mixed TRU since this is a non-RCRA facility.
<b>FINAL-FORM COMMENTS</b>	Prior estimates on weight distribution were given for this waste stream in section 8.2.14.1. The same estimates are used in this section. No newly generated waste is projected for this waste stream. 1 additional 55 gallon drum will be required to repack the existing waste.



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: OR-W092 Handling: CH NMVP #: N/A Stream Name: CH-TRU Uncategorized (nondefense, nonmixed) Inventory Date: 12/31/94  
 Local ID: T2302 Type: TRU Generator Site: PR Final Waste Form: Unknown Waste Matrix Code: S9000

**AS-GENERATED  
EPA CODES**

N/A

WASTE MATERIAL PARAMETERS (kg/m3)			
	Avg	Min	Max
Iron-base Metal/Alloys:	96.2	0.0	1716.4
Aluminum-base Metal/Alloys:	0.0	0.0	1.6
Other Metals/Alloys:	0.0	0.0	21.3
Other Inorganic Material:	2.4	0.0	24.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	80.9	0.0	184.8
Rubber:	7.4	0.0	17.9
Plastics:	64.9	0.0	149.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	3.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	131.0		
Packaging Material Plastic:	37.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

**FINAL WASTE FORM DESCRIPTORS**

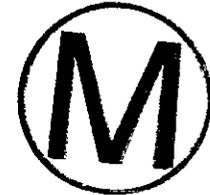
Category: Non-Defense TRU Waste  
 Residues: No  
 Asbestos: No  
 PCBs: No  
 Source: Source Information Not Compiled

**TRUCON CODE**

Unassigned

**FINAL FORM RADIONUCLIDES**

Isotope ( Ci/m3 )	
Co-60	1.37E+04
Ag-110M	1.37E+04



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Cask /Concrete	4.4	0.0	0.0	0.0	0.0	4.4	55 Gallon Drum	4.4	0.0	0.0	0.0	0.0	4.4
<b>Totals</b>	<b>4.39</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>4.4</b>	<b>Totals</b>	<b>4.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>4.4</b>

**As-Generated Form:** Stored: 4.4 Projected: 0.0 Total: 4.4 **Final Waste Form:** Stored: 4.4 Projected: 0.0 Total: 4.4

**WASTE STREAM DESCRIPTION** This waste stream consists of CH-TRU waste which has not been classified or characterized. It is believed that the physical form is either solid, liquid, mixed (both solid and liquid), or unknown and may contain hazardous constituents. This waste is categorized as uncategorized (matrix code 9000).

**WASTE STREAM SOURCE** Control and Shim Rods with data to be verified.

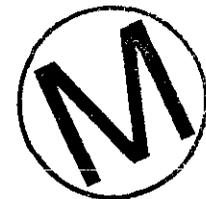
**CURRENT CONTAINER COMMENTS** Waste contents will require repackaging into an acceptable containers.

**EPA COMMENTS** N/A

**MANAGEMENT COMMENTS** Final treatment, if required, will be decided upon characterization and utilization of process knowledge for the categorization of this waste stream. The waste stored in casks will have to be repackaged into approved shipping containers. Resolution of the nondefense issue will have to be resolved if this waste stream is to be shipped to WIPP.

**ACCEPTANCE COMMENTS** Bldg 119 is not designated as a TRU Storage Facility and the waste inside will be assessed as being TRU or LLW.

**FINAL FORM COMMENTS** No prior estimates on weight distribution or Pu-239 FGEs were given for this waste stream because no 55-gallon drums were reported in the inventory and no waste is projected for the future. 21 55 gallon drums will be required to repack the existing waste.



Appendix O

DOE/CAO-95-1121

TWBIR ID: OR-Z001

**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: OR-Z001 Handling: U NMVP #: N/A Stream Name: Oak Ridge National Laboratory Buried TRU Waste Inventory Date:  
 Local ID: Type: TRU Generator Site: Final Waste Form: Unknown Waste Matrix Code:

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:			
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Defense TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues:		
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos:		
	Other Inorganic Material:	0.0	0.0	0.0	PCBs:		
	Vitrified:	0.0	0.0	0.0	Source:		
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	0.0					
	Packaging Material Plastic:	0.0					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Not contained	176.0	0.0	0.0	0.0	0.0	176.0							
Totals	176.00	0.0	0.0	0.0	0.0	176.0							

As-Generated Form: Stored: 176.0 Projected: 0.0 Total: 176.0 Final Waste Form: Stored: 0.0 Projected: 0.0 Total: 0.0

WASTE STREAM DESCRIPTION N/A

WASTE STREAM SOURCE

A total of approximately 176 m3 of TRU-contaminated waste is buried at the Oak Ridge National Laboratory site. This total does not include approximately 9,500 m3 of TRU waste that was injected by hydrofracture at ORNL, which is equivalent to about 680,000 Curies of as-stored radioactivity. As of December 31, 1993, the decayed radioactivity from the TRU radionuclides associated with this volume of buried waste is estimated to be 20 Curies. The TRU radionuclide total includes 244-Cm, which is considered to be a TRU radionuclide at ORNL. This waste will not go to WIPP.

CURRENT CONTAINER COMMENTS N/A

EPA COMMENTS

MANAGEMENT COMMENTS N/A

ACCEPTANCE COMMENTS N/A

FINAL FORM COMMENTS



**PA**

**Paducah Gaseous Diffusion Plant**

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## **PADUCAH GASEOUS DIFFUSION PLANT**

### **Location and Description**

The Paducah Gaseous Diffusion Plant (PA) is situated in northwestern Kentucky, 26 kilometers west of Paducah, near the Ohio River. The site encompasses 750 acres (including 74 acres of process buildings). The site is included in a 3422-acre tract of DOE-owned property.

The PA is operated from DOE/Oak Ridge Operations Office with Lockheed Martin Utilities Services as the Management and Operating Contractor.

### **Mission**

The DOE uranium enrichment complex of which PA is a component, was originally constructed to produce highly enriched uranium for nuclear weapons. The complex is now used primarily to provide low enriched uranium for domestic and foreign nuclear power reactors and, to a lesser degree, to provide the highly enriched uranium used in nuclear propulsion (naval) reactors and some research and test reactors.

The principle on-site process at PA is the separation of uranium isotopes through gaseous diffusion. The process produces enriched uranium to levels of up to 3% U-235. Most of the enriched product is shipped to the Portsmouth Gaseous Diffusion Plant for further processing.

### **Waste Information**

#### **Processes**

During its defense-related operations, recovery of a reactor material resulted in the generation of TRU waste. Although most of the TRU waste has been shipped to ORNL for storage, some wastes remain on site. No additional TRU waste generation is expected at the PGDP.

#### **Modifications/Assumptions/Development**

PA reported radionuclides in Ci per kilogram. The TWBIR team calculated the radionuclides in terms of Ci/m<sup>3</sup> using the mass and final form volumes reported by PA.

Waste streams that are expected to be directly shipped to WIPP (upon WIPP-WAC certification) without any need for repackaging or treatment are reported as "currently stored" in final form volume. For waste streams that are currently stored but are projected to be repackaged and/or treated at a later date prior to their shipment to WIPP, are also reported as "currently stored." This is done in order to avoid the error of double-counting these streams as both "as generated currently stored" and "final form projected."



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: PA-B015

Handling: CH

NMVP #: N/A

Stream Name: Transuranic and Technetium Wastes - Liquid

Inventory Date: 12/31/94

Local ID: PA-B015

Type: MTRU

Generator Site: PA

Final Waste Form: Unknown

Waste Matrix Code: L1190

**AS-GENERATED  
EPA CODES**

D002, D007

**WASTE MATERIAL PARAMETERS (kg/m3)**

	Avg	Min	Max
Iron-base Metal/Alloys:	59.0	0.0	0.0
Aluminum-base Metal/Alloys:	0.0	0.0	0.0
Other Metals/Alloys:	0.0	0.0	0.0
Other Inorganic Material:	0.0	0.0	0.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	0.0	0.0	0.0
Rubber:	0.0	0.0	0.0
Plastics:	0.0	0.0	0.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	0.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	212.0		
Packaging Material Plastic:	0.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

**FINAL WASTE FORM DESCRIPTORS**

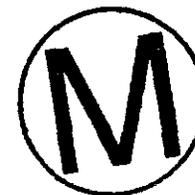
Category: Defense TRU Waste  
 Residues: No  
 Asbestos: No  
 PCBs: No  
 Source: Other/Multiple Sources

**TRUCON CODE**

N/A

**FINAL FORM RADIONUCLIDES**

Isotope ( Ci/m3 )	
Tc-99	3.79E+00
Pu-239	1.66E-01
Np-237	4.56E-02



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Drum/55-gallon in overpack	0.6	0.0	0.0	0.0	0.0	0.6	SWB used to overpack 55 gallon drums	0.0	0.0	0.0	0.0	1.9	1.9
<b>Totals</b>	<b>0.60</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.6</b>	<b>Totals</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1.9</b>	<b>1.9</b>

**As-Generated Form:** Stored: 0.6 Projected: 0.0 Total: 0.6 **Final Waste Form:** Stored: 0.0 Projected: 1.9 Total: 1.9

WASTE STREAM DESCRIPTION	Transuranic and Technitium waste class C Liquid
WASTE STREAM SOURCE	C-400
CURRENT CONTAINER COMMENTS	N/A
EPA COMMENTS	N/A
MANAGEMENT COMMENTS	N/A
ACCEPTANCE COMMENTS	N/A
FINAL FORM COMMENTS	N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: PA-W014 Handling: CH NMVP #: N/A Stream Name: Transuranic Waste Liquid Inventory Date: 12/31/94  
 Local ID: PA-W014 Type: MTRU Generator Site: PA Final Waste Form: Unknown Waste Matrix Code: L1220

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:			
D002	Iron-base Metal/Alloys:	0.0	0.0	0.0	Defense TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: No		
	Vitrified:	0.0	0.0	0.0	Source: Other/Multiple Sources		
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	212.0					
	Packaging Material Plastic:	0.0					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					

**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Drum/55-gallon in overpack	0.3	0.0	0.0	0.0	0.0	0.3	SWB used to overpack	0.0	0.0	0.0	0.0	1.9	1.9
<b>Totals</b>	<b>0.30</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.3</b>	<b>Totals</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1.9</b>	<b>1.9</b>

**As-Generated Form:** Stored: 0.3 Projected: 0.0 Total: 0.3 **Final Waste Form:** Stored: 0.0 Projected: 1.9 Total: 1.9

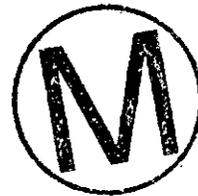


WASTE STREAM DESCRIPTION	Transuranic Waste Basic class C Green Sludge
WASTE STREAM SOURCE	C -400
CURRENT CONTAINER COMMENTS	N/A
EPA COMMENTS	N/A
MANAGEMENT COMMENTS	N/A
ACCEPTANCE COMMENTS	N/A
FINAL FORM COMMENTS	N/A



RF

Rocky Flats Environmental Technology Site





## **ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

### **Location and Description**

The Rocky Flats Environmental Technology Site (RFETS) is located in Jefferson County, Colorado, approximately 26 kilometers northwest of downtown Denver, near the suburban communities of Westminster, Boulder, Broomfield, Golden and Arvada, Colorado. It is a 384-acre complex in the center of a 6550-acre reservation.

The facilities at RFETS are divided into two main areas. The area on the north contains all of the facilities related to plutonium operations. Security fences and intrusion-detection systems surround all buildings in which plutonium is handled or stored, and various other measures are used to provide safeguards and security. This area is referred to as the "Protected Area". The area to the south contains both nonplutonium manufacturing facilities, which are located in secure areas, plutonium waste storage facilities, and general support facilities, some of which are in secured areas.

### **Mission**

The original mission of the Rocky Flats Plant (original name for RFETS) was the manufacture of nuclear weapons components fabricated from plutonium, enriched uranium, and conventional metals. It was originally a key weapons material production facility. Plant construction began in March 1951 and operations began in 1952. The Plant used specialized machine shops to process raw nuclear material into the finished components required by the warhead designs. Plutonium and beryllium components were fabricated into the shells of fissionable materials, called pits. A former mission of RFETS was to disassemble the pits from retiring weapons. The recovered pit was chemically processed to remove americium and plutonium. Plutonium scrap recovery was also performed at RF.

In 1989, the Secretary of Energy halted all plutonium production operations at the RFETS in order to improve the conduct of operations, standards of performance, and the management structure. On September 27, 1991, the President of the United States announced his cancellation of several nuclear-weapons programs, leaving the W-88 war head for the Trident II missile as the only remaining system requiring the fabrication of plutonium components at RFETS. This requirement was eliminated in 1992, when the President decided to cancel further production of the Trident II missile and its nuclear warhead.

In response to the President's decisions, the Secretary of Energy proceeded with several initiatives directed at a more cost-effective execution of the defense mission which included revising plans at RFETS for plutonium and nonplutonium manufacturing areas.

RFETS new mission is to clean out and stabilize production process systems, decontaminate obsolete or excess buildings and facilities; stabilize residues in preparation for transport to storage or disposal sites; possibly transfer non-plutonium manufacturing to other locations; maintain a contingency status. Approximately 140 structures at RFETS include major manufacturing, chemical processing, plutonium recovery, and waste treatment facilities. Plant operations also include chemical laboratories, research and development, and support of other DOE facilities.

RFETS has stopped weapons production operations. Future relevant activities will be TRU waste management, including preparation of existing material for geologic disposal, and decontamination and decommissioning.

## Waste Information

### Processes

Production activities included metal working, fabrication and component assembly, chemical recovery and purification of transuranic nuclides. The plant utilized specialized facilities for recovering nuclear components from obsolete weapons.

Prior to 1960, the main plutonium purification process was dissolution followed by a solvent extraction step that used tributylphosphate as the solvent and dodecane as the diluent. The solvent extraction step was followed by cation exchange. Around 1960, solvent extraction was eliminated from the recovery process because the materials going through the process were becoming more and more varied and could not be adequately handled by the process. The solvent extraction process was replaced by dissolution in the nitric acid followed by ion exchange and peroxide precipitation. The purified plutonium oxide was converted to plutonium fluoride and reduced to plutonium metal using calcium. Other chemical processes, such as molten salt extraction, have also been used at RFETS.

A need to process americium arose because of a personnel exposure problem from its gamma ray emissions. From late 1957 until the late 1970s, americium was recovered and purified at the plant for resale. The demand for americium dropped off in the late 1970s, and the americium was processed as waste.

Depleted uranium operations were a significant part of the original manufacturing performed at the plant. Operations included casting, machining, rolling, and forming. Alloying of depleted uranium with niobium began in 1966, although full-scale production did not occur until the early 1970s. Depleted uranium, which contains less than 0.7% U-235 by mass, is rich in the U-238 radionuclide. The RFETS depleted uranium is assumed to be material type U-12, which is composed of 99.78% U-238, 0.215% U-235, 0.006% U-236, and 0.001% U-234 by mass.

Enriched uranium, containing about 93% U-235 by mass, was processed at the RFETS from 1952 to 1964. This concentration of U-235 is material type U-38, which is composed of 93.08% U-235, 5.65% U-238, 0.93% U-234, and 0.34% U-236 by mass. The enriched uranium manufacturing processes included casting, forming, machining, assembly, recovery, and purification.

The enriched uranium chemical recovery line began operations in 1954. The chemical recovery used a solvent extraction process with dibutylethylcarbutol as the solvent and dodecane as the diluent. This process was similar to the early solvent extraction process used for plutonium recovery. A solvent still was operated at the plant, and some of the distilled solvent was reused. The discarded solvent and oils were drummed and later became part of the organic sludge waste stream. Enriched uranium operations were shut down in 1962.

Some U-233 was processed from the late 1950s to the early 1970s. The U-233 processing included casting, machining, aqueous processing, and separations. Records indicate that the INEL received 56 grams of U-233 as waste from the RFETS in 1967.



All the plutonium operations were carried out in enclosures that are operated under subatmospheric pressure to minimize uncontrolled releases of radioactive material into the operating area. These enclosures are called gloveboxes, and the ventilation systems pass through a high-efficiency particulate air filter system. Lead rubber gloves are used to protect operations personnel from the gamma activity associated with the plutonium and americium.

The filters from the ventilation systems and the filters used in other systems eventually become waste. The lead rubber becomes contaminated and also becomes waste. Some of the processes used produce liquid waste streams. These liquid streams are converted to a sludge or solid with adsorbents or cements. Contaminated equipment, clothing, tools, etc. end up as radioactive waste. Waste is also generated by decontamination projects and modifications to facilities.

All radioactive waste from the RFETS that was sent to INEL from 1954 to 1970 was buried at the RWMC. Transuranic waste received at INEL from RFETS after October 1970 has been stored aboveground at the Transuranic Storage Area.

#### **Modifications/Assumptions/Development**

The approach used and the assumptions made in preparing the RF waste stream profiles are as follows:

- Projection volumes were taken from the Comprehensive Waste Management Plan (CWMP) with the exception of Solid Stabilization (formerly Residue Elimination). The program projection available for Solid Stabilization at the time the CWMP was being drafted was a "not to exceed" volume. The volume and breakdown of final form waste streams used in preparing the TWBIR was an updated, projected volume taken from the Conceptual Design Report for Residue Elimination at Rocky Flats, RES-005-001, May 1994.
- The planned treatment for waste streams requiring treatment to meet WIPP WAC and TRAMPAC requirements are taken from the Draft Site Treatment Plan (DSTP) and the Treatment System Definition Report (TSDR) published by the Waste Compliance Programs.
- In the case where the waste stream or some portion of the waste stream requires treatment to change to the final waste form, the volume of waste resulting from the treatment of the original waste stream is included in the final waste form volume of the resulting waste stream. For example, the volume of waste resulting from treatment of Incinerator Ash is included in the final waste form volumes of the resulting waste stream, Solidified Process Solids.
- Volume increases due to repackaging waste that exceed the current decay heat limit when no other treatment is required were not included.
- To remain consistent with the volumes reported in the other RFETS publications, 0.21 m<sup>3</sup> was used as the container volume of a standard DOT-17C 55-gallon drum. The volume used for other containers was as specified on the data forms.
- Waste in boxes other than standard waste boxes (SWB) are assumed to be repackaged into SWBs, such that the waste from one 4'x4'x7' box is repacked into two SWBs. Therefore, the final waste form volumes for SWBs include the projected volume increase resulting from such repackaging activities.

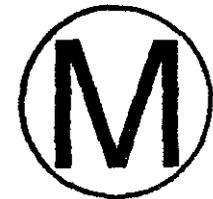


- The values for the Typical Waste Material Weights for Final Waste Form data for the TRU waste streams are the same as the corresponding TRU mixed waste streams.
- The waste generation rates for each waste form were prorated based on the fraction represented by the waste form on a Waste and Environmental Management System (WEMS) generation report showing actual generation.

**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: RF-W092    Handling: CH    NMVP #: N/A    Stream Name: PCB Solids-Compatibles/TRM    Inventory Date: 10/20/94  
 Local ID: 0831    Type: MTRU    Generator Site: RF    Final Waste Form: Inorganic Non-Metal    Waste Matrix Code: S5330

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES	
	Avg	Min	Max	Category:			Isotope ( Ci/m3 )	
F005, F002, F001	Iron-base Metal/Alloys:	0.0	0.0	0.0	Defense TRU Waste	N/A	Pu-241	5.17E+00
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		Pu-240	2.17E-01
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		Pu-239	9.49E-01
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: Yes		Am-241	7.34E-01
	Vitrified:	0.0	0.0	0.0	Source: Spill Clean-ups/Emergency Response Actions			
	Cellulosics:	0.0	0.0	0.0				
	Rubber:	0.0	0.0	0.0				
	Plastics:	0.0	0.0	0.0				
	Solidified Inorganic Material:	0.0	0.0	0.0				
	Solidified Organic Material:	0.0	0.0	0.0				
	Cement (solidified):	0.0	0.0	0.0				
	Soils:	0.0	0.0	0.0				
	Packaging Material Steel:	0.0						
	Packaging Material Plastic:	0.0						
	Packaging Material Lead:	0.0						
	Packaging Material Steel Plug:	0.0						



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Drum / 55-gallon	0.8	0.0	0.0	0.0	0.0	0.8							
Totals	0.83	0.0	0.0	0.0	0.0	0.8							

<b>As-Generated Form:</b>	Stored:	0.8	Projected:	0.0	Total:	0.8	<b>Final Waste Form:</b>	Stored:	0.0	Projected:	0.0	Total:	0.0
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**WASTE STREAM DESCRIPTION**      These dry combustibles are likely personal protective equipment (PPE), wipes, and rags from cleanup operations.

**WASTE STREAM SOURCE**            IDC 831 PCB solids were generated in Building 771 in 1988. These dry combustibles are likely personal protective equipment (PPE), wipes, and rags from cleanup operations.

**CURRENT CONTAINER COMMENTS**    N/A

**EPA COMMENTS**                    These containers were assigned EPA codes F001, F002, and F005 by the generator based on process knowledge.

**MANAGEMENT COMMENTS**         N/A

**ACCEPTANCE COMMENTS**          N/A

**FINAL FORM COMMENTS**

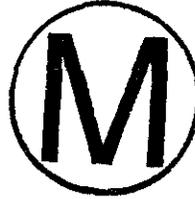


RL

Hanford (Richland) Site

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## HANFORD SITE

### Location and Description

The Hanford Site (RL) is located north of the Tri Cities, Washington (Richland, Kennewick, and Pasco), on a 1450 square kilometer area of semiarid land within the Columbia River Basin in the southeastern corner of Washington State. Normal Columbia River elevations range from 119 meters, where the Columbia River enters RL near the Priest Rapids Dam, to 104 meters where it leaves the RL near the 300 area.

Activities at RL are centralized in numerically designated areas. The reactor facilities are located along the Columbia River in what is known as the 100-Area. The reactor fuel processing and waste management facilities are in the 200-Area. The 300-Area, located adjacent to, and north of, Richland, contains the reactor fuel manufacturing facilities and the research and development laboratories. The 400-Area, five miles northwest of the 300-Area, contains the Fast Flux Test Facility, a sodium-cooled fast breeder reactor. The 600-Area covers all locations not specifically given an area designation. Adjacent to, and north of, Richland, the 1100-Area contains facilities associated with administration, maintenance, transportation, and materials procurement and distribution. The 3000-Area, contains engineering and administrative offices. Administrative buildings, including the Federal Building, are located in the 700-Area, which is in downtown Richland.

RL is administered by the DOE Richland Operations Office. The current Management and Operating Contractor is Westinghouse Hanford Company.

### Mission

The Hanford Site was acquired by the Federal Government in 1943 for the construction and operation of facilities to produce plutonium for the atomic weapons program during World War II. For more than 30 years, Hanford Site facilities were primarily dedicated to the production of plutonium for national defense and management of the wastes generated by chemical processing operations. In later years, programs at the Hanford Site became increasingly diverse, involving research and development for advanced reactors, renewable energy technologies, waste disposal technologies, and cleanup of contamination from past practices. The DOE has ended the production mission at the Hanford Site and is currently reorienting activities toward management of its wastes cleanup of the site. The mission now is one of environmental management, demonstration and application of advanced remediation technologies, and restoration of the Hanford Site.

During the wartime Manhattan Project, the town of Richland, Washington, was wholly-owned and controlled by the Government.



## Waste Information

### Processes

Retrievably stored, CH TRU waste has been received from 55 generating areas, buildings, and offsite facilities.

The Plutonium Finishing Plant (PFP) (Z Plant) is one of Hanford's waste generators and is the major source of CH TRU solid waste by volume (approximately 53.6%) The PFP where the Pu Reclamation Facility, Pu conversion, product handling, decontamination and decommissioning, analytical and chemical technology laboratories are located. Waste common to all of these are: surgical gloves, paper, glass, glovebox gloves, metal tools and equipment. and HEPA filters.

At the Pu Reclamation Facility, Pu was reclaimed from scrap solutions and solids. The scrap was treated in various ways to produce soluble and/or leachable forms of Pu for recovery. Waste generated included acid-soaked rags, liquid organics, and sludges.

Pu Conversion takes place at the Remote Mechanical C Line (RMC Line) where the Pu conversion processes received Pu nitrate as feed and converted it to either Pu oxide or metal. Waste generated included sludges, hydraulic oils, and acid-soaked rags.

Product handling includes receipt, shipment, repackaging, and nondestructive assay of special nuclear materials. Waste generated included damp rags, leather gloves, and empty metal cans used for shipping.

Decontamination and Decommissioning removed selected PFP facilities such as process gloveboxes and associated systems, ventilation systems, vacuum systems, and drain systems and dispose of them. Waste generated included damp rags, and building rubble (e.g., concrete, steel, wool, etc.).

Analytical and Chemical Technology Laboratories provide laboratory services to other PFP operations. Waste generated here included liquid organics, sludges, damp rags, and empty metal cans for shipping.

Another waste generator at Hanford was the Plutonium Uranium Extraction (PUREX) Plant. Products from this plant were weapons-grade plutonium, fuel-grade plutonium, depleted uranium, slightly enriched uranium, neptunium, and thorium. The plutonium conversion, process solution sampling, laboratory analyses, plant ventilation, and facility ventilation generated waste that was common to all these PUREX operations including surgical gloves, plastic (polyvinyl chloride and polyethylene), tape, paper, glass, glovebox gloves, and metal tools and equipment.

The overall PUREX Plant process consisted of seven fundamental interfacing processing units: feed preparation; solvent extraction, separation, and purification; solvent recovery and treatment for recycling; backcycle waste system; acid recovery; waste treatment; offgas treatment; and conversion of plutonium nitrate to plutonium oxide.

Pu conversion operations received Pu nitrate as feed and converted the Pu to Pu oxide. Wastes generated were old and failed equipment, port covers, replaced windows, brackets and hardware, and acid-soaked rags.

Process solution sampling operations extract liquid samples from process control points to be used in system analysis and control. After use, all liquids are drained to the PUREX liquid waste system. Waste generated at this facility included broken glassware and plasticware, wet rags and paper, and piping and valving equipment.

Laboratory Analysis Operations were performed on liquid process samples used for system analysis and control. After use, all liquids were drained to the PUREX liquid waste system. Waste generated were broken glassware and plasticware, and wet rags and paper.

During Plant ventilation operations, air from contaminated areas was exhausted through HEPA filters to remove airborne contamination. TRU waste generated during these operations include contaminated HEPA filters. All HEPA filters are packaged as uncertified waste as there is no current technology available at PUREX to determine which HEPA filters meet the WIPP Waste Acceptance Criteria.

Facility Modification Operations were performed to improve overall plant performance. Modifications included the disposal of outdated and damaged equipment. Waste generated included tanks, process equipment and gloveboxes, and building materials.

#### Modifications/Assumptions/Development

**New radionuclide data were submitted two days prior to going to print. The data were not reviewed by the technical team.**

#### APPROACH

The approach used in preparing the RL waste stream profiles is as follows:

- Waste is divided between "past practice waste" (1970 through 1986) and currently-generated waste (1987 through 2028). Currently-generated waste includes projected waste generation.
- Past practice waste is grouped by generators, whereas currently-generated waste is grouped by waste matrix. The reasons for grouping the data in this manner are as follows: 1) the interim storage practice was changed from below ground surface (trenches) to above surface (storage buildings) in the 1986/1987 time period; 2) the By-Product Rule was issued by DOE on May 1, 1987, which compelled the hazardous components of TRU waste to be regulated by EPA under RCRA; 3) more detailed matrix information per container has been collected from the generator since 1987, and stored in the site's record waste tracking system; and 4) starting approximately 1986, waste generators began packaging the waste in accordance with the WIPP Waste Acceptance Criteria, thus reducing the need for additional waste processing prior to shipping to WIPP.
- Currently-generated waste streams were identified by reviewing each container record in the site's solid waste tracking system. Groups of containers that have similar physical characteristics and chemical contaminants (mixed only) were placed into a treatability group waste stream. The waste was then separated into drums, boxes, and RH canisters.



## ASSUMPTIONS

The following assumptions were made by the site in repackaging the waste into the final waste form:

### 1. General

- A. A portion of the thermocouple assemblies, transfer pumps, mixing pumps, and other equipment in the single-shell and double-shell tanks will be removed, size-reduced, decontaminated, and assayed. Assay information will be used to designate the waste packages as low-level waste or TRU waste. The projection is that 10% of the equipment will be designated as RH-TRU, mixed waste and 90% will be designated as remote-handled, low level mixed waste. (WHC-EP 0768, Solid Waste 30-Year Volume Summary, p. 4-6, Table 4-1)
- B. TRU waste forecast volume data has been provided from the following off-site waste generators: AL, AE, BCL, LB, LL, and Santa Susana Field Laboratory (Rockwell, Canoga Park). The assumption is that TRU waste from these off-site waste generators will be received at RL for treatment in the Waste Receiving and Processing Facility (WRAP) and shipment to WIPP. (WHC-EP-0768, Solid Waste 30-Year Volume Summary)
- C. PUREX transition activities will generate 117 m<sup>3</sup> of CH-TRU and mixed TRU waste. The PUREX facility is currently undergoing transition activities towards decontamination and decommissioning. The facility transition activities at PUREX will provide a model for the subsequent transition of other canyon-type facilities in the future. Waste generation estimates from PUREX and other canyon type facilities have been included in the forecast. (WHC-EP-0768, Solid Waste 30-Year Volume Summary)
- D. Approximately 140 m<sup>3</sup> of spent research reactor fuel stored in trenches with the TRU waste is managed as TRU waste. Future evaluations may determine that this waste should be managed by the National Spent Fuel Program. (WHC-SD-SNF-TI-001, Revision 0)



### 2. Retrieval of Stored TRU Waste

- A. Stored TRU waste consists of existing TRU waste generated since May 1970 through December 1993. This waste does not include waste, originally designated as TRU waste, that has been assayed and redesignated as low-level waste during the calendar years (CY) 1986 to 1993.
- B. CH-TRU Waste
  - Of the TRU waste stored from May 1970 to December 1985 that has not been assayed and redesignated as low-level waste (by December 1993), 50% of the waste stored in 55-gallon drums is expected to be TRU waste upon assaying. The remainder is expected to be low-level waste upon assaying. (WHC-EP-0225, Revision 1, Table 4-26)

- Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging the waste will result in a 35% increase in the volume of TRU-certified waste in drums. (WHC-SD-W026-SDRD-001, Revision 3)
- Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected.
- The site's solid waste tracking system does not distinguish between specific types of metals. If lead is present, then "other metals" is assumed to represent 100% of the metals in the container. Otherwise, iron-based metals is assumed to be 80% and aluminum-based metal is assumed to be 20% of the metal (reference: WHC-EP-225 Rev 1, TRU Waste Characterization Based on Current Records).

### C. RH-TRU Waste

- No volume reduction is projected due to size reduction for transport in RH canisters.

## 3. Newly-generated TRU waste

A. This waste will be generated during the fiscal years 1994 through 2013.

### B. CH-TRU Waste

- One hundred percent of the waste in drums will be managed as TRU waste with 10% considered noncertifiable and requiring treatment.
- All boxed waste (except waste in SWBs) will require size reduction in the WRAP facility.

### C. RH-TRU Waste

- Newly-generated RH-TRU waste will be stored in shielded drums pending repackaging in RH-canisters in the WRAP facility.
- RH-TRU waste retrieved from the 618-11 burial ground will include some soil surrounding breached containers. It is assumed that this soil will increase the waste volume to be retrieved by 25%. No volume reduction is projected for treatment in the WRAP facility.
- A portion of the single-shell and double-shell tank equipment will be size-reduced and decontaminated, assayed, and shipped to WIPP as RH-TRU waste. The assumption is the 90% of the equipment will be classified as remote-handled, low level mixed waste and 10% will be RH-TRU, mixed waste.
- Most of the waste generated between 1987 and 1993 is debris waste. As such, projected RH-TRU waste is assumed to be debris waste.



- The mixed waste contaminants and radionuclide composition of projected RH-TRU waste are unknown.



Appendix O

DOE/CAO-95-1121

TWBIR ID: RL-W284

**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: RL-W284    Handling: CH    NMVP #: N/A    Stream Name: 201C Unk form CH RCRA MTRU w/ met    Inventory Date: 12/1/94  
 Local ID:    Type: MTRU    Generator Site: RL    Final Waste Form: Unknown    Waste Matrix Code: U9999

**AS-GENERATED  
EPA CODES**  
D010, D008, D007

WASTE MATERIAL PARAMETERS (kg/m3)	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES	
	Avg	Min	Max	Category:			Isotope ( Ci/m3 )	
Iron-base Metal/Alloys:	41.0	0.0	0.0	Defense TRU Waste		N/A	Am-241	2.47E+00
Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No			Pu-241	8.00E-02
Other Metals/Alloys:	3.1	0.0	0.0	Asbestos: No			Pu-240	0.00E+00
Other Inorganic Material:	0.0	0.0	0.0	PCBs: No			Pu-239	1.00E-02
Vitrified:	0.0	0.0	0.0	Source: Remediation/D&D Waste			Beta/Gamma	0.00E+00
Cellulosics:	17.2	0.0	0.0					
Rubber:	4.5	0.0	0.0					
Plastics:	30.2	0.0	0.0					
Solidified Inorganic Material:	0.0	0.0	0.0					
Solidified Organic Material:	0.0	0.0	0.0					
Cement (solidified):	0.0	0.0	0.0					
Soils:	0.0	0.0	0.0					
Packaging Material Steel:	0.0							
Packaging Material Plastic:	0.0							
Packaging Material Lead:	0.0							
Packaging Material Steel Plug:	0.0							



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55 Gallon Drum	0.4	0.0	0.0	0.0	0.0	0.4	55 Gallon Drum	0.4	0.0	0.0	0.0	0.0	0.4
Totals	0.42	0.0	0.0	0.0	0.0	0.4	Totals	0.4	0.0	0.0	0.0	0.0	0.4

**As-Generated Form:** Stored: 0.4 Projected: 0.0 Total: 0.4    **Final Waste Form:** Stored: 0.4 Projected: 0.0 Total: 0.4

**WASTE STREAM DESCRIPTION** THE STREAM CONTAINS PLASTIC/POLYURETHANE, STAINLESS STEEL, PAPER/CARDBOARD, RUBBER, LEAD, CLOTH/RAGS/NYLON.

**WASTE STREAM SOURCE** This stream is unknown waste form contact handled RCRA regulated mixed TRU waste with metal contaminants from the Demolition of the Semi-works facility.

**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** Data are compiled from waste manifest data on each container of TRU waste.

**MANAGEMENT COMMENTS** The assumption is that the WIPP No Migration Petition will be approved by EPA and the State of New Mexico. Under the assumption, treatment of the waste stream to meet LDR is not required nor planned.

**ACCEPTANCE COMMENTS** N/A

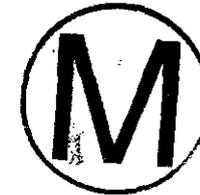
**FINAL FORM COMMENTS** N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: RL-W327    Handling: CH    NMVP #: N/A    Stream Name: 2345Z Uncat met debris CH RC/TS MTRU w/ met(Hg)    Inventory Date: 12/1/94  
 Local ID:    Type: MTRU    Generator Site: RL    Final Waste Form: Uncategorized Metal    Waste Matrix Code: S5400

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES	
	Avg	Min	Max	Category:	Isotope ( Ci/m3 )			
D009, D008, D006	Iron-base Metal/Alloys:	198.1	0.0	0.0	Defense TRU Waste	N/A	Am-241	8.00E-02
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		Pu-241	1.25E+01
	Other Metals/Alloys:	21.7	0.0	0.0	Asbestos: No		Pu-240	4.20E-01
	Other Inorganic Material:	16.7	0.0	0.0	PCBs: Yes		Pu-239	1.86E+00
	Vitrified:	0.0	0.0	0.0	Source: Facility/Equipment Operation and Maintenance Waste		Beta/Gamma	0.00E+00
	Cellulosics:	3.3	0.0	0.0				
	Rubber:	0.0	0.0	0.0				
	Plastics:	15.9	0.0	0.0				
	Solidified Inorganic Material:	0.0	0.0	0.0				
	Solidified Organic Material:	0.0	0.0	0.0				
	Cement (solidified):	0.0	0.0	0.0				
	Soils:	0.0	0.0	0.0				
	Packaging Material Steel:	0.0						
	Packaging Material Plastic:	0.0						
	Packaging Material Lead:	0.0						
	Packaging Material Steel Plug:	0.0						



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Box	66.6	79.9	133.2	106.6	66.6	452.9	Standard Waste Box	66.2	22.7	37.8	30.2	18.9	175.8
Totals	66.61	79.9	133.2	106.6	66.6	452.9	Totals	66.2	22.7	37.8	30.2	18.9	175.8

As-Generated Form:    Stored: 66.6    Projected: 386.3    Total: 452.9    Final Waste Form:    Stored: 66.2    Projected: 109.6    Total: 175.8

**WASTE STREAM DESCRIPTION** THE STREAM CONTAINS METAL/IRON/GALVANIZED/SHEET, PLASTIC/POLYURETHANE, WOOD/LUMBER/PLYWOOD, LEAD, CONCRETE, GLASS, CLOTH/RAGS/NYLON, OILS, PAPER/CARDBOARD.

**WASTE STREAM SOURCE** This stream is uncategorized metal contact handled RCRA/TSCA (PCB) reg. mixed TRU waste with metal (Hg) contaminants from the Plutonium Recovery and Processing Facility.

**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** Data are compiled from waste manifest data on each container of TRU waste.

**MANAGEMENT COMMENTS** The assumption is that the WIPP No Migration Petition will be approved by EPA and the State of New Mexico. Under the assumption, treatment of the waste stream to meet LDR is not required nor planned.

**ACCEPTANCE COMMENTS** N/A

**FINAL FORM COMMENTS** N/A



Appendix O

DOE/CAO-95-1121

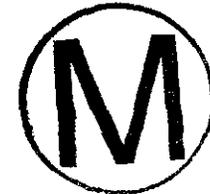
TWBIR ID: RL-W328

**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: RL-W328 Handling: CH NMVP #: N/A Stream Name: 2345Z Pb/Cd debris CH RC/TS MTRU w/ met(Hg) Inventory Date: 12/1/94  
 Local ID: Type: MTRU Generator Site: RL Final Waste Form: Lead/Cadmium Metal Waste Waste Matrix Code: S5300

**AS-GENERATED  
EPA CODES**  
D009, D008, D006

WASTE MATERIAL PARAMETERS (kg/m3)	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES	
	Avg	Min	Max	Category:			Isotope ( Ci/m3 )	
Iron-base Metal/Alloys:	58.0	0.0	0.0	Defense TRU Waste		N/A	Am-241	8.00E-02
Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No			Pu-241	1.25E+01
Other Metals/Alloys:	228.2	0.0	0.0	Asbestos: No			Pu-240	4.20E-01
Other Inorganic Material:	2.8	0.0	0.0	PCBs: Yes			Pu-239	1.86E+00
Vitrified:	0.0	0.0	0.0	Source: Facility/Equipment Operation and Maintenance Waste			Beta/Gamma	0.00E+00
Cellulosics:	0.0	0.0	0.0					
Rubber:	0.0	0.0	0.0					
Plastics:	38.9	0.0	0.0					
Solidified Inorganic Material:	0.0	0.0	0.0					
Solidified Organic Material:	0.0	0.0	0.0					
Cement (solidified):	0.0	0.0	0.0					
Soils:	0.0	0.0	0.0					
Packaging Material Steel:	0.0							
Packaging Material Plastic:	0.0							
Packaging Material Lead:	0.0							
Packaging Material Steel Plug:	0.0							



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Box	3.2	0.0	0.0	0.0	0.0	3.2	Standard Waste Box	3.8	0.0	0.0	0.0	0.0	3.8
Totals	3.17	0.0	0.0	0.0	0.0	3.2	Totals	3.8	0.0	0.0	0.0	0.0	3.8

**As-Generated Form:** Stored: 3.2 Projected: 0.0 Total: 3.2 **Final Waste Form:** Stored: 3.8 Projected: 0.0 Total: 3.8

TWBIR ID: **RL-W328**

**Appendix O**

DOE/CAO-95-1121

<b>WASTE STREAM DESCRIPTION</b>	THE STREAM CONTAINS PLASTIC/POLYURETHANE, LEAD, METAL/IRON/GALVANIZED/SHEET, GLASS.
<b>WASTE STREAM SOURCE</b>	This stream is lead cadmium metal contact handled RCRA/TSCA (PCB) reg. mixed TRU waste with metal (Hg) contaminants from the Plutonium Recovery and Processing Facility.
<b>CURRENT CONTAINER COMMENTS</b>	N/A
<b>EPA COMMENTS</b>	Data are compiled from waste manifest data on each container of TRU waste.
<b>MANAGEMENT COMMENTS</b>	The assumption is that the WIPP No Migration Petition will be approved by EPA and the State of New Mexico. Under the assumption, treatment of the waste stream to meet LDR is not required nor planned.
<b>ACCEPTANCE COMMENTS</b>	N/A
<b>FINAL FORM COMMENTS</b>	N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: RL-W329 Handling: CH NMVP #: N/A Stream Name: 2345Z Solidif org CH RC/TS MTRU w/ ign Inventory Date: 12/1/94  
 Local ID: Type: MTRU Generator Site: RL Final Waste Form: Solidified Organics Waste Matrix Code: U9999

**AS-GENERATED EPA CODES**

**WASTE MATERIAL PARAMETERS (kg/m3)**

**FINAL WASTE FORM DESCRIPTORS**

**TRUCON CODE**

**FINAL FORM RADIONUCLIDES**

D001	Waste Material	WASTE MATERIAL PARAMETERS (kg/m3)			Category	TRUCON CODE	FINAL FORM RADIONUCLIDES	
		Avg	Min	Max			Isotope ( Ci/m3 )	
	Iron-base Metal/Alloys:	0.2	0.0	0.0	Defense TRU Waste	N/A	Am-241	8.00E-02
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		Pu-241	1.25E+01
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		Pu-240	4.20E-01
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: Yes		Pu-239	1.86E+00
	Vitrified:	0.0	0.0	0.0	Source: Facility/Equipment Operation and Maintenance Waste		Beta/Gamma	0.00E+00
	Cellulosics:	84.2	0.0	0.0				
	Rubber:	4.7	0.0	0.0				
	Plastics:	71.3	0.0	0.0				
	Solidified Inorganic Material:	0.0	0.0	0.0				
	Solidified Organic Material:	0.0	0.0	0.0				
	Cement (solidified):	0.0	0.0	0.0				
	Soils:	0.0	0.0	0.0				
	Packaging Material Steel:	0.0						
	Packaging Material Plastic:	0.0						
	Packaging Material Lead:	0.0						
	Packaging Material Steel Plug:	0.0						



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55 Gallon Drum	2.1	1.7	2.1	2.5	2.1	10.5	55 Gallon Drum	2.1	1.7	2.1	2.5	2.1	10.4
<b>Totals</b>	<b>2.10</b>	<b>1.7</b>	<b>2.1</b>	<b>2.5</b>	<b>2.1</b>	<b>10.5</b>	<b>Totals</b>	<b>2.1</b>	<b>1.7</b>	<b>2.1</b>	<b>2.5</b>	<b>2.1</b>	<b>10.4</b>

As-Generated Form: Stored: 2.1 Projected: 8.4 Total: 10.5 Final Waste Form: Stored: 2.1 Projected: 8.3 Total: 10.4

<b>WASTE STREAM DESCRIPTION</b>	THE STREAM CONTAINS PLASTIC/POLYURETHANE, ORGANICS, CLOTH/RAGS/NYLON, RUBBER, METAL/IRON/GALVANIZED/SHEET.
<b>WASTE STREAM SOURCE</b>	This stream is solidified organics contact handled RCRA/TSCA (PCB) reg. mixed TRU waste with ignitable contaminants from the Plutonium Recovery and Processing Facility.
<b>CURRENT CONTAINER COMMENTS</b>	N/A
<b>EPA COMMENTS</b>	Data are compiled from waste manifest data on each container of TRU waste.
<b>MANAGEMENT COMMENTS</b>	The assumption is that the WIPP No Migration Petition will be approved by EPA and the State of New Mexico. Under the assumption, treatment of the waste stream to meet LDR is not required nor planned.
<b>ACCEPTANCE COMMENTS</b>	N/A
<b>FINAL FORM COMMENTS</b>	N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: RL-W332

Handling: CH

NMVP #: N/A

Stream Name: 2345Z Unk form CH St MTRU

Inventory Date: 12/1/94

Local ID:

Type: MTRU

Generator Site: RL

Final Waste Form: Unknown

Waste Matrix Code: U9999

**AS-GENERATED  
EPA CODES**

**WASTE MATERIAL PARAMETERS (kg/m3)**

**FINAL WASTE FORM DESCRIPTORS**

**TRUCON CODE**

**FINAL FORM RADIONUCLIDES**

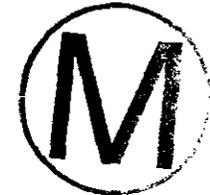
N/A

	Avg	Min	Max
Iron-base Metal/Alloys:	0.0	0.0	0.0
Aluminum-base Metal/Alloys:	0.0	0.0	0.0
Other Metals/Alloys:	0.0	0.0	0.0
Other Inorganic Material:	0.0	0.0	0.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	0.0	0.0	0.0
Rubber:	0.0	0.0	0.0
Plastics:	0.0	0.0	0.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	0.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	0.0		
Packaging Material Plastic:	0.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

Category: Defense TRU Waste  
 Residues: No  
 Asbestos: No  
 PCBs: No  
 Source: Facility/Equipment Operation and Maintenance Waste

N/A

Isotope ( Ci/m3 )	
Am-241	8.00E-02
Pu-241	1.25E+01
Pu-240	4.20E-01
Pu-239	1.86E+00
Beta/Gamma	0.00E+00



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Box	0.2	0.0	0.0	0.0	0.0	0.2	Standard Waste Box	0.2	0.0	0.0	0.0	0.0	0.2
Totals	0.23	0.0	0.0	0.0	0.0	0.2	Totals	0.2	0.0	0.0	0.0	0.0	0.2

As-Generated Form: Stored: 0.2 Projected: 0.0 Total: 0.2 Final Waste Form: Stored: 0.2 Projected: 0.0 Total: 0.2

Appendix O

TWBIR ID: RL-W332

WASTE STREAM DESCRIPTION

Typically, 70 to 80% of the waste in the drums is combustible items such as wood, plastics, paper, absorbents, rubber and rags. Approximately 20 to 30% of the waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing fixtures and soil. Boxes typically contain whole and sectioned glove boxes, hoods, conduit, lathes, pumps, fans, light fixtures, tools conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oil have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters. Several boxes contain only high-efficiency particulate air filters, while others contain these filters and other waste forms.

WASTE STREAM SOURCE

This stream is unknown waste form contact handled State regulated mixed TRU waste from the Plutonium Recovery and Processing Facility.

CURRENT CONTAINER COMMENTS N/A

EPA COMMENTS

Data are compiled from waste manifest data on each container of TRU waste.

MANAGEMENT COMMENTS

The assumption is that the WIPP No Migration Petition will be approved by EPA and the State of New Mexico. Under the assumption, treatment of the waste stream to meet LDR is not required nor planned.

ACCEPTANCE COMMENTS

N/A

FINAL FORM COMMENTS

N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: RL-W333    Handling: CH    NMVP #: N/A    Stream Name: 2345Z Solidif org debris CH TSCA MTRU    Inventory Date: 12/1/94  
 Local ID:    Type: MTRU    Generator Site: RL    Final Waste Form: Solidified Organics    Waste Matrix Code: S5400

**AS-GENERATED EPA CODES**

**WASTE MATERIAL PARAMETERS (kg/m3)**

**FINAL WASTE FORM DESCRIPTORS**

**TRUCON CODE**

**FINAL FORM RADIONUCLIDES**

N/A

	Avg	Min	Max
Iron-base Metal/Alloys:	0.0	0.0	0.0
Aluminum-base Metal/Alloys:	0.0	0.0	0.0
Other Metals/Alloys:	0.0	0.0	0.0
Other Inorganic Material:	56.3	0.0	0.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	4.8	0.0	0.0
Rubber:	1.3	0.0	0.0
Plastics:	61.0	0.0	0.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	0.0
Cement (solidified):	0.0	0.0	0.0
Soils:	29.8	0.0	0.0
Packaging Material Steel:	1.6		
Packaging Material Plastic:	0.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

Category: Defense TRU Waste    N/A  
 Residues: No  
 Asbestos: No  
 PCBs: Yes  
 Source: Facility/Equipment Operation and Maintenance Waste

Isotope	Ci/m3
Am-241	8.00E-02
Pu-241	1.25E+01
Pu-240	4.20E-01
Pu-239	1.86E+00
Beta/Gamma	4.00E-02



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55 Gallon Drum	1.3	1.0	1.0	0.4	0.0	3.8	55 Gallon Drum	1.2	1.0	1.0	0.4	0.0	3.7
<b>Totals</b>	<b>1.26</b>	<b>1.0</b>	<b>1.0</b>	<b>0.4</b>	<b>0.0</b>	<b>3.8</b>	<b>Totals</b>	<b>1.2</b>	<b>1.0</b>	<b>1.0</b>	<b>0.4</b>	<b>0.0</b>	<b>3.7</b>

**As-Generated Form:**    Stored: 1.3    Projected: 2.5    Total: 3.8    **Final Waste Form:**    Stored: 1.2    Projected: 2.5    Total: 3.7

<b>WASTE STREAM DESCRIPTION</b>	THE STREAM CONTAINS ABSORBENT/KITY LTR/VERMICULITE, PLASTIC/POLYURETHANE, CONWEB PADS, OILS, CLOTH/RAGS/NYLON, DIRT/SOIL/DIATOMACEOUS EARTH, RUBBER, PCB.
<b>WASTE STREAM SOURCE</b>	This stream is solidified organics contact handled TSCA (PCB) regulated mixed TRU waste from the Plutonium Recovery and Processing Facility.
<b>CURRENT CONTAINER COMMENTS</b>	N/A
<b>EPA COMMENTS</b>	Data are compiled from waste manifest data on each container of TRU waste.
<b>MANAGEMENT COMMENTS</b>	The assumption is that the WIPP No Migration Petition will be approved by EPA and the State of New Mexico. Under the assumption, treatment of the waste stream to meet LDR is not required nor planned.
<b>ACCEPTANCE COMMENTS</b>	N/A
<b>FINAL FORM COMMENTS</b>	N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: RL-W334    Handling: CH    NMVP #: N/A    Stream Name: 2345Z-Uncat mt debris CH TSCA MTRU    Inventory Date: 12/1/94  
 Local ID:    Type: MTRU    Generator Site: RL    Final Waste Form: Uncategorized Metal    Waste Matrix Code: S5400

**AS-GENERATED  
EPA CODES**

**WASTE MATERIAL PARAMETERS (kg/m3)**

**FINAL WASTE FORM DESCRIPTORS**

**TRUCON CODE**

**FINAL FORM RADIONUCLIDES**

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS	TRUCON CODE	FINAL FORM RADIONUCLIDES		
	Avg	Min	Max			Isotope ( Ci/m3 )		
N/A	Iron-base Metal/Alloys:	261.9	0.0	0.0	Category: Defense TRU Waste	N/A	Am-241	8.00E-02
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		Pu-241	1.25E+01
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		Pu-240	4.20E-01
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: Yes		Pu-239	1.86E+00
	Vitrified:	0.0	0.0	0.0	Source: Facility/Equipment Operation and Maintenance Waste		Beta/Gamma	0.00E+00
	Cellulosics:	0.0	0.0	0.0				
	Rubber:	0.0	0.0	0.0				
	Plastics:	76.2	0.0	0.0				
	Solidified Inorganic Material:	0.0	0.0	0.0				
	Solidified Organic Material:	0.0	0.0	0.0				
	Cement (solidified):	0.0	0.0	0.0				
	Soils:	0.0	0.0	0.0				
	Packaging Material Steel:	9.5						
	Packaging Material Plastic:	0.0						
	Packaging Material Lead:	0.0						
	Packaging Material Steel Plug:	0.0						



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55 Gallon Drum	0.2	0.0	0.0	0.0	0.0	0.2	55 Gallon Drum	0.2	0.0	0.0	0.0	0.0	0.2
<b>Totals</b>	<b>0.21</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.2</b>	<b>Totals</b>	<b>0.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.2</b>

**As-Generated Form:**    Stored: 0.2    Projected: 0.0    Total: 0.2    **Final Waste Form:**    Stored: 0.2    Projected: 0.0    Total: 0.2

**WASTE STREAM DESCRIPTION** THE STREAM CONTAINS METAL/IRON/GALVANIZED/SHEET, PLASTIC/POLYURETHANE, CONWEB PADS, DIRT/SOIL/DIATOMACEOUS EARTH.

**WASTE STREAM SOURCE** This stream is uncategorized metal contact handled TSCA (PCB) regulated mixed TRU waste from the Plutonium Recovery and Processing Facility.

**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** Data are compiled from waste manifest data on each container of TRU waste.

**MANAGEMENT COMMENTS** The assumption is that the WIPP No Migration Petition will be approved by EPA and the State of New Mexico. Under the assumption, treatment of the waste stream to meet LDR is not required nor planned.

**ACCEPTANCE COMMENTS** N/A

**FINAL FORM COMMENTS** N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: RL-W357    Handling: CH    NMVP #: N/A    Stream Name: KAPL Unk form CH/r TRU    Inventory Date: 12/1/94  
 Local ID:    Type: TRU    Generator Site: RL    Final Waste Form: Unknown    Waste Matrix Code: U9999

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES	
N/A	Avg	Min	Max	Category:		N/A	Isotope ( Ci/m3 )	
Iron-base Metal/Alloys:	0.0	0.0	0.0	Defense TRU Waste			Am-241	0.00E+00
Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues:	No		Pu-241	0.00E+00
Other Metals/Alloys:	0.0	0.0	0.0	Asbestos:	No		Pu-240	0.00E+00
Other Inorganic Material:	0.0	0.0	0.0	PCBs:	No		Pu-239	0.00E+00
Vitrified:	0.0	0.0	0.0	Source:	R&D/R&D Laboratory Waste		Beta/Gamma	7.81E+00
Cellulosics:	0.0	0.0	0.0					
Rubber:	0.0	0.0	0.0					
Plastics:	0.0	0.0	0.0					
Solidified Inorganic Material:	0.0	0.0	0.0					
Solidified Organic Material:	0.0	0.0	0.0					
Cement (solidified):	0.0	0.0	0.0					
Soils:	0.0	0.0	0.0					
Packaging Material Steel:	0.0							
Packaging Material Plastic:	0.0							
Packaging Material Lead:	0.0							
Packaging Material Steel Plug:	0.0							



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55 Gallon Drum	0.2	0.0	0.0	0.0	0.0	0.2	55 Gallon Drum	0.2	0.0	0.0	0.0	0.0	0.2
Totals	0.21	0.0	0.0	0.0	0.0	0.2	Totals	0.2	0.0	0.0	0.0	0.0	0.2

As-Generated Form:    Stored: 0.2    Projected: 0.0    Total: 0.2    Final Waste Form:    Stored: 0.2    Projected: 0.0    Total: 0.2

TWBIR ID: **RL-W357**

**Appendix O**

DOE/CAO-95-1121

<b>WASTE STREAM DESCRIPTION</b>	THIS STREAM CONTAINS CHEMICALS.
<b>WASTE STREAM SOURCE</b>	This stream is unknown waste form contact handled packaged remote non-mixed TRU waste from the Knolls Atomic Power Laboratory.
<b>CURRENT CONTAINER COMMENTS</b>	N/A
<b>EPA COMMENTS</b>	Data are compiled from waste manifest data on each container of TRU waste.
<b>MANAGEMENT COMMENTS</b>	N/A
<b>ACCEPTANCE COMMENTS</b>	N/A
<b>FINAL FORM COMMENTS</b>	N/A



Appendix O

DOE/CAO-95-1121

TWBIR ID: RL-W366

**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: RL-W366    Handling: CH    NMVP #: N/A    Stream Name: 202A Unk form CH TRU    Inventory Date: 12/1/94  
 Local ID:    Type: TRU    Generator Site: RL    Final Waste Form: Unknown    Waste Matrix Code: U9999

**AS-GENERATED  
EPA CODES**

**WASTE MATERIAL PARAMETERS (kg/m3)**

**FINAL WASTE FORM DESCRIPTORS**

**TRUCON CODE**

**FINAL FORM RADIONUCLIDES**

N/A

	Avg	Min	Max
Iron-base Metal/Alloys:	0.0	0.0	0.0
Aluminum-base Metal/Alloys:	0.0	0.0	0.0
Other Metals/Alloys:	0.0	0.0	0.0
Other Inorganic Material:	0.0	0.0	0.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	0.0	0.0	0.0
Rubber:	0.0	0.0	0.0
Plastics:	0.0	0.0	0.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	0.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	0.0		
Packaging Material Plastic:	0.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

Category: Defense TRU Waste  
 Residues: No  
 Asbestos: No  
 PCBs: No  
 Source: Facility/Equipment Operation and Maintenance Waste

N/A

Isotope ( Ci/m3 )	
Am-241	1.00E-02
Pu-241	4.05E+01
Pu-240	1.32E+00
Pu-239	5.70E+00
Beta/Gamma	0.00E+00

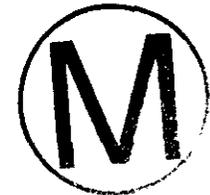


**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55 Gallon Drum	1.5	0.8	0.0	0.0	0.0	2.3	55 Gallon Drum	1.5	0.8	0.0	0.0	0.0	2.3
<b>Totals</b>	<b>1.47</b>	<b>0.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>2.3</b>	<b>Totals</b>	<b>1.5</b>	<b>0.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>2.3</b>

**As-Generated Form:** Stored: 1.5 Projected: 0.8 Total: 2.3    **Final Waste Form:** Stored: 1.5 Projected: 0.8 Total: 2.3

WASTE STREAM DESCRIPTION	THIS STREAM CONTAINS MISCELLANEOUS/UNKNOWN/OTHER.
WASTE STREAM SOURCE	This stream is unknown waste form contact handled non-mixed TRU waste from the Fuel Reprocessing Facility.
CURRENT CONTAINER COMMENTS	N/A
EPA COMMENTS	Data are compiled from waste manifest data on each container of TRU waste.
MANAGEMENT COMMENTS	N/A
ACCEPTANCE COMMENTS	N/A
FINAL FORM COMMENTS	N/A



Appendix O

DOE/CAO-95-1121

TWBIR ID: RL-W382

**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: RL-W382 Handling: CH NMVP #: N/A Stream Name: 2345Z Unk form CH TRU Inventory Date: 12/1/94  
 Local ID: Type: TRU Generator Site: RL Final Waste Form: Unknown Waste Matrix Code: U9999

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES	
	Avg	Min	Max	Category:	Isotope ( Ci/m3 )			
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Defense TRU Waste	N/A	Am-241	9.00E-02
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		Pu-241	2.11E+01
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		Pu-240	7.60E-01
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: No		Pu-239	3.37E+00
	Vitrified:	0.0	0.0	0.0	Source: Facility/Equipment Operation and Maintenance Waste		Beta/Gamma	1.00E-02
	Cellulosics:	0.0	0.0	0.0				
	Rubber:	0.0	0.0	0.0				
	Plastics:	0.0	0.0	0.0				
	Solidified Inorganic Material:	0.0	0.0	0.0				
	Solidified Organic Material:	0.0	0.0	0.0				
	Cement (solidified):	0.0	0.0	0.0				
	Soils:	0.0	0.0	0.0				
	Packaging Material Steel:	0.0						
	Packaging Material Plastic:	0.0						
	Packaging Material Lead:	0.0						
	Packaging Material Steel Plug:	0.0						



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55 Gallon Drum	18.7	11.9	16.7	18.3	14.6	80.2	55 Gallon Drum	18.7	11.9	16.6	18.3	14.6	80.1
<b>Totals</b>	<b>18.74</b>	<b>11.9</b>	<b>16.7</b>	<b>18.3</b>	<b>14.6</b>	<b>80.2</b>	<b>Totals</b>	<b>18.7</b>	<b>11.9</b>	<b>16.6</b>	<b>18.3</b>	<b>14.6</b>	<b>80.1</b>

**As-Generated Form:** Stored: 18.7 Projected: 61.4 Total: 80.2 **Final Waste Form:** Stored: 18.7 Projected: 61.4 Total: 80.1

Appendix O

DOE/CAO-95-1121

TWBIR ID: RL-W382

WASTE STREAM DESCRIPTION THIS STREAM CONTAINS MISCELLANEOUS/UNKNOWN/OTHER.

WASTE STREAM SOURCE This stream is unknown waste form contact handled non-mixed TRU waste from the Plutonium Recovery and Processing Facility.

CURRENT CONTAINER COMMENTS N/A

EPA COMMENTS

MANAGEMENT COMMENTS N/A

ACCEPTANCE COMMENTS N/A

FINAL FORM COMMENTS N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: RL-W391    Handling: CH    NMVP #: N/A    Stream Name: 308 Comb unk form CH TRU    Inventory Date: 12/1/94  
 Local ID:    Type: TRU    Generator Site: RL    Final Waste Form: Unknown    Waste Matrix Code: U9999

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES	
	Avg	Min	Max	Category:	Residues:		Isotope ( Ci/m3 )	
N/A	Iron-base Metal/Alloys:	76.4	0.0	0.0	Defense TRU Waste	N/A	Am-241	2.50E-01
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	No		Pu-241	2.20E+01
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		Pu-240	9.00E-01
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: No		Pu-239	3.56E+00
	Vitrified:	0.0	0.0	0.0	Source: R&D/R&D Laboratory Waste		Beta/Gamma	0.00E+00
	Cellulosics:	120.1	0.0	0.0				
	Rubber:	0.0	0.0	0.0				
	Plastics:	0.0	0.0	0.0				
	Solidified Inorganic Material:	0.0	0.0	0.0				
	Solidified Organic Material:	0.0	0.0	0.0				
	Cement (solidified):	0.0	0.0	0.0				
	Soils:	0.0	0.0	0.0				
	Packaging Material Steel:	0.0						
	Packaging Material Plastic:	0.0						
	Packaging Material Lead:	0.0						
	Packaging Material Steel Plug:	0.0						



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55 Gallon Drum	0.4	0.0	0.0	0.0	0.0	0.4	55 Gallon Drum	0.4	0.0	0.0	0.0	0.0	0.4
Totals	0.42	0.0	0.0	0.0	0.0	0.4	Totals	0.4	0.0	0.0	0.0	0.0	0.4

As-Generated Form:    Stored: 0.4    Projected: 0.0    Total: 0.4    Final Waste Form:    Stored: 0.4    Projected: 0.0    Total: 0.4

Appendix O

TWBIR ID: **RL-W391**

**WASTE STREAM DESCRIPTION** THIS STREAM CONTAINS ORGANICS, METAL/IRON/GALVANIZED/SHEET.

**WASTE STREAM SOURCE** This stream is combustible contact handled non-mixed TRU waste from the Fuels Development Laboratory.

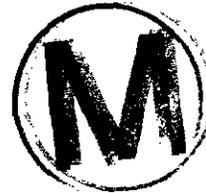
**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS**

**MANAGEMENT COMMENTS** N/A

**ACCEPTANCE COMMENTS** N/A

**FINAL FORM COMMENTS** N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: RL-Z001 Handling: U NMVP #: N/A Stream Name: Hanford Buried TRU Waste Inventory Date:  
 Local ID: Type: TRU Generator Site: Final Waste Form: Unknown Waste Matrix Code:

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:			
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Defense TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues:		
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos:		
	Other Inorganic Material:	0.0	0.0	0.0	PCBs:		
	Vitrified:	0.0	0.0	0.0	Source:		
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	0.0					
	Packaging Material Plastic:	0.0					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes					Final Waste Form Volumes							
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Not contained	63629.0	0.0	0.0	0.0	0.0	63629.0							
Totals	63629.00	0.0	0.0	0.0	0.0	63629.0							

As-Generated Form: Stored: 63629.0 Projected: 0.0 Total: 63629.0 Final Waste Form: Stored: 0.0 Projected: 0.0 Total: 0.0

WASTE STREAM DESCRIPTION N/A

WASTE STREAM SOURCE

A total of approximately 63,629 m3 of TRU-contaminated waste is buried at the Hanford Site. It is anticipated that upon retrieval of this waste, a significant amount of the soil will become contaminated and will thereby increase the volume of waste. The estimated waste and associated contaminated soil volume is 109,000 m3. As of December 31, 1993, the decayed radioactivity from the TRU radionuclides associated with this volume of buried waste is estimated to be 93,800 Curies and the total decayed radioactivity from all radionuclides is estimated to be 173,410 Curies. This waste will not go to WIPP.

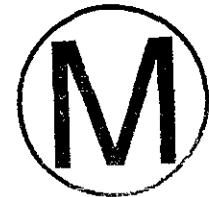
CURRENT CONTAINER COMMENTS N/A

EPA COMMENTS

MANAGEMENT COMMENTS N/A

ACCEPTANCE COMMENTS N/A

FINAL FORM COMMENTS





**SA**

**Sandia National Laboratories/New Mexico**

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## **SANDIA NATIONAL LABORATORIES**

### **Location and Description**

Sandia National Laboratories/New Mexico (SNL/NM) is located immediately southeast of Albuquerque, New Mexico, on Kirtland Air Force Base. The SNL/NM consists not only of the headquarters facilities in Albuquerque, New Mexico, but also the laboratory facility in Livermore, California, the Tonopah Test Range in Nevada, and occupies about 7,600 acres (not including Tonopah Test Range).

Prior to the Trinity shot in 1945, the Manhattan project had a small facility on Sandia Base (now Kirtland AFB) to perform ordnance engineering, nonnuclear atomic bomb assembly and military training. In March 1948, the Sandia Laboratory was established as a formal branch of the Los Alamos Scientific Laboratory (LASL) now LA. In 1949, Sandia Corporation was organized as a wholly-owned subsidiary of the Western Electric Company, and approximately 1,700 LASL employees were transferred. In 1984, Sandia Corporation became a wholly-owned subsidiary of the AT&T Technologies Corporation.

SNL/NM is administered by the DOE/Albuquerque Operations Office and is currently operated by the Lockheed Martin Corporation.

### **Mission**

SNL/NM's mission was research, development, and engineering of nuclear weapons systems except for the nuclear explosive. This included nuclear weapons systems ordnance engineering, nonnuclear component design and development, field and laboratory testing, and manufacturing engineering.

SNL/NM has operated the Tonopah Test Range near Tonopah, Nevada, since the range was established in 1957. The site is located about 322 kilometers northwest of Las Vegas, Nevada, on 1360 square kilometers of land provided by the Air Force in accordance with a use permit. Tonopah Test Range is a major facility for the field testing of nonnuclear and denuclearized weapons, research rockets, and artillery. Aerodynamic stability, the compatibility of various ballistic shapes, trajectories, times of fall, accuracy of delivery, and functioning of fuzing components are tested under conditions simulating actual use. Certain types of high explosive ordnance are also tested at the test range.

### **Waste Information**

### **Processes**

One of SNL/NM's generators is the Inhalation Toxicology Research Institute (ITRI). Since 1960, ITRI has performed a variety of research programs for the DOE. The original research was dedicated to the evaluation of health effects caused by inhalation of fission products. Research is now conducted on the health effects of transuranic elements such as plutonium, americium, curium, and nonradioactive airborne materials in various environments.



**Modifications/Assumptions/Development**

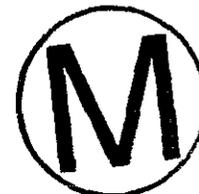
Waste streams that are expected to be directly shipped to WIPP (upon WIPP-WAC certification) without any need for repackaging or treatment are reported as "currently stored" in final form volume. For waste streams that are currently stored but are projected to be repackaged and/or treated at a later date prior to their shipment to WIPP, are also reported as "currently stored." This is done in order to avoid the error of double-counting these streams as both "as generated currently stored" and "final form projected."



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: SA-Z001    Handling: U    NMVP #: N/A    Stream Name: Sandia National Laboratory/NM Buried TRU Waste    Inventory Date:  
 Local ID:    Type: TRU    Generator Site:    Final Waste Form: Unknown    Waste Matrix Code:

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:			
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Defense TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues:		
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos:		
	Other Inorganic Material:	0.0	0.0	0.0	PCBs:		
	Vitrified:	0.0	0.0	0.0	Source:		
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	0.0					
	Packaging Material Plastic:	0.0					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Not contained	1.3	0.0	0.0	0.0	0.0	1.3							
Totals	1.33	0.0	0.0	0.0	0.0	1.3							

As-Generated Form:    Stored: 1.3    Projected: 0.0    Total: 1.3    Final Waste Form:    Stored: 0.0    Projected: 0.0    Total: 0.0

WASTE STREAM DESCRIPTION N/A

WASTE STREAM SOURCE

A total of approximately 1.33 m3 of TRU-contaminated waste is buried at the Sandia National Laboratory/New Mexico site. Radioactivity information is not available. This waste will not go to WIPP.

CURRENT CONTAINER COMMENTS N/A

EPA COMMENTS

MANAGEMENT COMMENTS N/A

ACCEPTANCE COMMENTS N/A

FINAL FORM COMMENTS



SR

Savannah River Site

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## **SAVANNAH RIVER SITE**

### **Location and Description**

The Savannah River Site (SRS) is located about 31 kilometers southeast of Aiken, South Carolina, on 198,334 acres (803 square kilometers) along the Savannah River. The SRS encompasses parts of three counties, Aiken, Barnwell, and Allendale in western South Carolina. The closest major cities are Aiken, South Carolina, and Augusta, Georgia. The site is a controlled area with limited public access. The facilities occupy less than 8 percent of the site. The remaining 92 percent is divided into forest (80%) and wetlands (20%).

The Savannah River Site is a government owned, contractor operated (GOCO) site that is managed by the DOE Savannah River Operations Office. The current Management and Operating Contractor for the Site is Westinghouse Savannah River Company.

### **Mission**

The primary mission of the SRS has been to support national security as a major source of reactor-produced materials, primarily tritium, plutonium, heavy water (deuterium) and other special nuclear materials for weapons manufacturing. The mission was broadened over the years to include the production of other isotopes, such as Pu-238. SRS's production activities also included the loading of tritium containers for the nuclear weapons, reclamation of tritium containers and the purification of tritium recovered from retired weapons.

The decision in 1950 to go ahead with the Savannah River Plant was driven by the perceived need for tritium in the fusion weapon program following President Truman's directive of January 31, 1950, to develop a thermonuclear weapon (the "super"). While production of tritium in the Hanford reactor had been demonstrated, the new plant at Savannah River was necessary to avoid serious curtailment in the production of plutonium at Hanford for the fission program. If thermonuclear weapons proved unfeasible or tritium requirements turned out to be less than anticipated, the construction of Savannah River was further justified in order to increase plutonium production, to provide a higher efficiency in the use of uranium ore, to provide security against attack of the Hanford reactors, and to provide replacement reactors in the event of the retirement of older Hanford reactors.

Five reactors (currently shut down), two chemical processing plants, a tritium extraction, purification, and loading facility, and a high-level waste solidification facility comprise the major elements of the Defense Program operations and facilities at SRS.

The SRS waste management mission is to comply with applicable federal and state regulations, DOE Orders, and the Management and Operating Contractor policies, to minimize effects on the environment and the generation of new waste, and to the extent possible, contain waste handling, treatment, storage, and disposal within the site. Other mission objectives include the demonstration and application of remediation technologies and the environmental restoration of the SRS site. With the changing defense posture, environmental restoration is receiving increased emphasis versus weapons materials production.



## Waste Information

### Processes

At SRS, production of useful radioactive isotopes is accompanied by production of radioactive waste. These wastes must be safely contained and stored until the risk associated with their radioactivity is eliminated by decay or the waste is permanently disposed. In both production and power nuclear reactors, neutrons strike uranium-235 atoms in the reactor fuel, add energy and cause the atoms to become unstable and split apart or "fission." This results in the production of fission products and more neutrons, initiating a sustained chain reaction and a steady supply of neutrons. In addition to fuel, the SRS reactors contained long cylinders of material called targets. When neutrons strike the targets, useful radionuclides are created through transmutation. The fuel and target assemblies are then removed from the reactor and, after a suitable cooling period, are sent to the chemical separation areas for processing to recover the desired radionuclides (uranium, plutonium, tritium, etc).

Currently, TRU waste at SRS is generated primarily from radiochemical separations processes, analytical laboratories, and research and development activities. Primary contaminants in the waste are Pu-238 and Pu-239. The major on-site facilities that generate TRU waste are the FB-Line, the HB Line, 235-F, 772-F, and 773-A.

FB-Line and HB-Line generate TRU waste containing plutonium and neptunium. The waste is generated during the use of gloveboxes, contamination control huts, and decontamination processes waste. TRU waste is placed in 5-gallon cans, assayed, sealed in a drum liner, and placed in 55-gallon drums before transport to the waste TRU storage facility.

In the HB Separation Line, uranium, neptunium (Np) and plutonium (Pu) are recovered from irradiated enriched uranium fuels and transferred to the HB line for processing. The HB line uses three independent facilities to process Np, Pu, and recoverable scrap. TRU waste, containing Pu-238, is generated during decontamination operations, replacement of equipment, maintenance, inspection, and sampling.

In the FB Separation Line, irradiated metal alloys from the reactors are dissolved and separated into uranium, Pu metal, and high-level liquid waste using the Purex process. Uranium and plutonium are recovered and TRU waste, containing Pu-239 is generated during decontamination operations, maintenance, inspection, replacement of equipment, sampling and laboratory analysis.

The 235-F facility generates TRU waste from three waste streams, the Actinide Billet Line, the Plutonium Experimental Facility, and Plutonium Fuel Fabrication. The three streams yield neptunium and plutonium isotopes. Waste materials consist of lead-lined gloves, neoprene gloves, process waste, equipment, and filters.

The 772-F TRU waste generated in the Central Laboratory Facility results from the handling and analysis of various plutonium and neptunium samples. The routine laboratory TRU solid waste consists of paper, plastic, glass, metal, lead-lined gloves, HEPA filters, and IX resins.



The 773-A, the Savannah River Technology Center (SRTC) Solid Waste Assay Facility (SWAF) receives boxes of waste from other laboratories within the SRTC complex. The SWAF processes includes x-raying, weighing, and assaying the boxes. After processing, the waste boxes are placed in drums before shipping to the site waste disposal facility.

Solid TRU waste, such as processing equipment, glassware, and gloveboxes too large for 55-gallon drums are packaged and stored in large steel or concrete containers. The separation areas produce most of the solid TRU waste.

Off-site generators that have sent TRU waste to SRS are Los Alamos National Laboratory, Mound Laboratory, Allied-General Nuclear Services, National Institute of Standards Technology, General Sciences, Department of Defense, and Knolls Atomic Power Laboratory.

### Modifications/Assumptions/Development

Savannah River's Vitrified waste stream Waste Material Parameters were recalculated by the TWBIR team to provide closure approximations to the 1000 lbs per 55 gallon drum weight limits required by the TRUPACT-II Safety Analysis Report for Packaging (SARP). In recalculating these parameters the volumes and number of final form containers were increased. This increase may hinder SRS's cost effectiveness for shipment to WIPP.

The composition of SRS final waste forms was determined using acceptable knowledge (Processing knowledge) and existing waste form research work performed by Savannah River Technical Center (SRTC).

A combination of waste descriptions, waste codes, and acceptable knowledge were used to determine the general waste types stored at SRS. This includes only the waste types affecting the final waste forms.

Waste stream volumes for SR-T001, SR-W006, SR-W026, SR-W027, and SR-W053 were separated and reported by generator and waste types.

Waste, which is classified because of shape, was identified and reported separately by SRS. The shape of this waste is expected to be destroyed during waste processing. Other classified waste was not reported by SRS because of the contents of the waste.



Waste volumes and number of containers to be shipped to WIPP were based on the type of disposal container used, the size reduction factors after waste processing, and the volume of waste to be processed. The volume of waste to be processed was based on TRU waste volumes as of 12/31/94 and waste forecasts contained in the Proposed Site Treatment Plan (PSTP) and the Waste Management Environment Impact Statement (WMEIS). These forecasts include TRU waste from operational, D&D, and ER activities.

Most of SRS's metal waste is currently packaged in large steel boxes. The waste in these steel boxes is (assumed by the site to be) 80% bulk metal and 20% heterogeneous debris. The size reduction factor for large metal components is 3.5 to 1.

No volume reduction is expected from the repackaging of heterogeneous waste streams.

The preferred technology for treating SRS TRU waste is solidification by vitrification (i.e., Hybrid Plasma Treatment). The process design provides sufficient mixing controls to ensure WIPP WAC compliance. The assumed volume reduction factor using this technology is 30 to 1. This factor applies to waste streams SR-W026, SR-W027, SR-T001, SR-T003, SR-W053, and SR-W006.

Waste streams that are expected to be directly shipped to WIPP (upon WIPP-WAC certification) without any need for repackaging or treatment are reported as "currently stored" in final form volume. For waste streams that are currently stored but are projected to be repackaged and/or treated at a later date prior to their shipment to WIPP, are also reported as "currently stored." This is done in order to avoid the error of double-counting these streams as both "as generated currently stored" and "final form projected."



Appendix O

DOE/CAO-95-1121

TWBIR ID: SR-Z001

**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: SR-Z001    Handling: U    NMVP #: N/A    Stream Name: Savannah River Buried TRU Waste    Inventory Date:  
 Local ID:    Type: TRU    Generator Site:    Final Waste Form: Unknown    Waste Matrix Code:

AS-GENERATED  
EPA CODES

WASTE MATERIAL PARAMETERS (kg/m3)

FINAL WASTE FORM DESCRIPTORS

TRUCON CODE

FINAL FORM RADIONUCLIDES

N/A

	Avg	Min	Max
Iron-base Metal/Alloys:	0.0	0.0	0.0
Aluminum-base Metal/Alloys:	0.0	0.0	0.0
Other Metals/Alloys:	0.0	0.0	0.0
Other Inorganic Material:	0.0	0.0	0.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	0.0	0.0	0.0
Rubber:	0.0	0.0	0.0
Plastics:	0.0	0.0	0.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	0.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	0.0		
Packaging Material Plastic:	0.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

Category: Defense TRU Waste

N/A

N/A

Residues:

Asbestos:

PCBs:

Source:



WASTE VOLUME DETAIL (cu. meters)

Container	<u>As-Generated Waste Form Volumes</u>						<u>Final Waste Form Volumes</u>						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Not contained	4874.0	0.0	0.0	0.0	0.0	4874.0							
Totals	4874.00	0.0	0.0	0.0	0.0	4874.0							

As-Generated Form:    Stored: 4874.0    Projected: 0.0    Total: 4874.0    Final Waste Form:    Stored: 0.0    Projected: 0.0    Total: 0.0

WASTE STREAM DESCRIPTION N/A

WASTE STREAM SOURCE A total of approximately 4,874 m3 of TRU-contaminated waste is buried at the Savannah River Site. This volume of waste was buried at the site from 1952 through 1974. As of December 31, 1993, the decayed radioactivity from the TRU radionuclides associated with this volume of buried waste is estimated to be 30,500 Curies. Information on non-TRU radionuclides is not available. This waste will not go to WIPP.

CURRENT CONTAINER COMMENTS N/A

EPA COMMENTS

MANAGEMENT COMMENTS N/A

ACCEPTANCE COMMENTS N/A

FINAL FORM COMMENTS



WV

West Valley Demonstration Project

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## **WEST VALLEY DEMONSTRATION PROJECT**

### **Location and Description**

The West Valley Demonstration Project (WV) is located at the site of the only commercial nuclear fuel reprocessing plant to have operated in the United States. WV facilities occupy approximately 0.8 km<sup>2</sup> of the 13.5 km<sup>2</sup> Western New York Nuclear Services Center (WNYNSC) in West Valley, New York. The site includes the only commercial nuclear reprocessing plant operated from 1966 to 1972 under a long-term lease from the New York State Energy Research and Development Authority (NYSERDA). In 1976, the plant operator notified NYSERDA of its intention to cease operations.

In 1980, the West Valley Demonstration Project Act (Act) authorized DOE to conduct a high-level radioactive waste (HLW) management demonstration project at the WNYNSC. WV was established to demonstrate that liquid waste from the reprocessing of spent nuclear fuel can be managed safely in the United States. DOE, with its contractor West Valley Nuclear Services, Inc., assumed operational control of the site in 1982. WV is jointly funded by DOE and NYSERDA. Upon completion of the project, DOE will leave the premises.

### **Mission**

The primary mission at WV is to pretreat, remove, solidify, and temporarily store HLW. The following activities comprise the project: 1) solidify the liquid HLW; 2) develop containers suitable for permanent disposal of solidified HLW; 3) transport solidified waste to a Federal repository; 4) dispose of low-level and TRU waste generated during the solidification process; and 5) decontaminate and decommission facilities used in HLW treatment.

### **Waste Information**

#### **Processes**

The only operations waste at WV is that associated with preparations for the solidification of HLW. Mixed TRU waste stream sources are routine laboratory analyses performed in conjunction with the treatment of HLW, and the maintenance and repair of facilities and equipment.

### **Modifications/Assumptions/Development**

Waste streams that are expected to be directly shipped to WIPP (upon WIPP-WAC certification) without any need for repackaging or treatment are reported as "currently stored" in final form volume. For waste streams that are currently stored but are projected to be repackaged and/or treated at a later date prior to their shipment to WIPP, are also reported as "currently stored." This is done in order to avoid the error of double-counting these streams as both "as generated currently stored" and "final form projected."

No RH-TRU Canisters currently exist at WV. The assumption is that all RH-TRU currently stored waste will be repackaged into an RH Canister at a later date.

**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-M005    Handling: RH    NMVP #: N/A    Stream Name: TRU Filters    Inventory Date:   
 Local ID: N/A    Type: TRU    Generator Site:    Final Waste Form: Filter    Waste Matrix Code: S5410

**AS-GENERATED  
EPA CODES**

N/A



WASTE MATERIAL PARAMETERS (kg/m3)	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:			
Iron-base Metal/Alloys:	0.0	0.0	0.0	Commercial TRU Waste		N/A	N/A
Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues:	No		
Other Metals/Alloys:	0.0	0.0	0.0	Asbestos:	No		
Other Inorganic Material:	0.0	0.0	0.0	PCBs:	No		
Vitrified:	0.0	0.0	0.0	Source:	Facility/Equipment Operation and Maintenance Waste		
Cellulosics:	0.0	0.0	0.0				
Rubber:	0.0	0.0	0.0				
Plastics:	0.0	0.0	0.0				
Solidified Inorganic Material:	0.0	0.0	0.0				
Solidified Organic Material:	0.0	0.0	0.0				
Cement (solidified):	0.0	0.0	0.0				
Soils:	0.0	0.0	0.0				
Packaging Material Steel:	351.2						
Packaging Material Plastic:	0.4						
Packaging Material Lead:	0.0						
Packaging Material Steel Plug:	0.0						

**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
60 cubic ft. lead shielded box	23.8	30.6	32.3	0.0	0.0	86.7	RH Canister	49.0	0.0	17.8	0.0	0.0	66.8
70 cubic ft. Type A waste box	19.8	13.9	15.8	0.0	0.0	49.5	Standard Waste Box	0.0	13.2	15.1	0.0	0.0	28.3
90 cubic ft. waste box	5.0	0.0	0.0	0.0	0.0	5.0	Totals	49.0	13.2	32.9	0.0	0.0	95.1
Totals	48.6	44.5	48.1	0.0	0.0	141.2							

As-Generated Form:    Stored: 48.6    Projected: 92.6    Total: 141.2    Final Waste Form:    Stored: 49.0    Projected: 46.1    Total: 95.1

**WASTE STREAM DESCRIPTION** This waste stream consists of filters generated from normal site operations. The specific contents include pre-filters, High Efficiency Particulate Air (HEPA) filters, and roughing filters.

**WASTE STREAM SOURCE** Filters generated from changeout of various ventilation systems roughing and HEPA filters from normal site operations.

**CURRENT CONTAINER COMMENTS** The lead shielding is integral with the box and does not come in contact with the waste

**EPA COMMENTS** N/A

**MANAGEMENT COMMENTS** WVNS container ID numbers: 12-1513, 12-1514, TC-036, TC-042, TC-045, TC-073, TC-076, TC-086, TC-089, 1994: TC-001, TC-043, TC-117, TC-132, TC-134, TC-137, TC-139, TC-140, TC-141, TC-148, TC-152, TC-153, TC-154, TC-155, TC-156, TC-157, TC-159

**ACCEPTANCE COMMENTS** None

**FINAL FORM COMMENTS** No RH-TRU canisters currently exist at WV. The assumption is that all RH-TRU currently stored waste will be repackaged into RH-TRU canisters at a later date.



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-M007 Handling: CH NMVP #: N/A Stream Name: TRU General Waste Inventory Date: 12/31/94  
 Local ID: N/A Type: MTRU Generator Site: Final Waste Form: Unknown Waste Matrix Code: U9999

**AS-GENERATED  
EPA CODES**

unknown

**WASTE MATERIAL PARAMETERS (kg/m3)**

	Avg	Min	Max
Iron-base Metal/Alloys:	0.0	0.0	0.0
Aluminum-base Metal/Alloys:	0.0	0.0	0.0
Other Metals/Alloys:	0.0	0.0	0.0
Other Inorganic Material:	1.0	0.0	0.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	0.0	0.0	0.0
Rubber:	0.0	0.0	0.0
Plastics:	0.0	0.0	0.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	0.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	131.0		
Packaging Material Plastic:	37.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

**FINAL WASTE FORM DESCRIPTORS**

Category: Commercial TRU Waste  
 Residues: No  
 Asbestos: No  
 PCBs: No  
 Source: Facility/Equipment Operation and Maintenance Waste

**TRUCON CODE**

N/A

**FINAL FORM RADIONUCLIDES**

N/A



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes					Final Waste Form Volumes							
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55-GALLON DRUM	10.1	0.0	0.0	0.0	0.0	10.1	55 Gallon Drum	10.0	0.0	0.0	0.0	0.0	10.0
<b>Totals</b>	<b>10.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>10.1</b>	<b>Totals</b>	<b>10.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>10.0</b>

As-Generated Form: Stored: 10.1 Projected: 0.0 Total: 10.1 Final Waste Form: Stored: 10.0 Projected: 0.0 Total: 10.0

**WASTE STREAM DESCRIPTION** This waste stream consists of uncharacterized (i.e., requires hazardous characterization) general site waste generated from normal site operations. The specific contents of this waste stream are unknown.

**WASTE STREAM SOURCE** General site waste requiring hazardous characterization generated from normal site operations.

**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** Further sampling and analysis required to determine the contents of these containers, and if RCRA contaminants are present.

**MANAGEMENT COMMENTS** WVNS Container ID #s for this waste stream are: 5046, 5047, 5069, 5099, 5153, 5253, 5263, 5304, 5321, 5334, 5348, 5382, 5563, 5856, 6310, TD-008, TD-017, TD-028, TD-034, TD-035, TD-036, TD-040, TD-043, TD-184, TD-240, TD-268, TD-271, TD-294, TD-304, TD-308, TD-367, TD-387, TD-389, TD-399, TD-402, TD-407, TD-546, TD-554, TD-581, TD-596, TD-606, TD-607, TD-622, TD-629, TD-634, TD-924, TD-926, TD-931.

**ACCEPTANCE COMMENTS** None

**FINAL FORM COMMENTS** Some volume reduction may be performed on reduce the number of shipping containers required



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-M008    Handling: CH    NMVP #: N/A    Stream Name: TRU Concrete    Inventory Date: 12/31/94  
 Local ID: N/A    Type: TRU    Generator Site:    Final Waste Form: Solidified Inorganics    Waste Matrix Code: S3150

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m <sup>3</sup> )			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:	Source:		
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Commercial TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: No		
	Vitrified:	0.0	0.0	0.0	Source: Facility/Equipment Operation and Maintenance Waste		
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	1.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	131.0					
	Packaging Material Plastic:	37.0					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					

**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55-GALLON DRUM	0.2	0.0	0.0	0.0	0.0	0.2	55 Gallon Drum	0.2	0.0	0.0	0.0	0.0	0.2
Totals	0.2	0.0	0.0	0.0	0.0	0.2	Totals	0.2	0.0	0.0	0.0	0.0	0.2

As-Generated Form:    Stored: 0.2    Projected: 0.0    Total: 0.2    Final Waste Form:    Stored: 0.2    Projected: 0.0    Total: 0.2



TWBIR ID: **WV-M008**

**Appendix O**

DOE/CAO-95-1121

<b>WASTE STREAM DESCRIPTION</b>	This waste stream consists of samples solidified with cement generated from the on-site A&PC laboratory.
<b>WASTE STREAM SOURCE</b>	Concrete samples generated from the on-site Analytical & Process Chemistry (A&PC) laboratory.
<b>CURRENT CONTAINER COMMENTS</b>	N/A
<b>EPA COMMENTS</b>	N/A
<b>MANAGEMENT COMMENTS</b>	WVNS TD-076
<b>ACCEPTANCE COMMENTS</b>	NONE
<b>FINAL FORM COMMENTS</b>	N/A



Appendix O

DOE/CAO-95-1121

TWBIR ID: WV-M010

**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-M010 Handling: CH NMVP #: N/A Stream Name: TRU Spent Absorbents Inventory Date: 12/31/94  
 Local ID: Type: TRU Generator Site: Final Waste Form: Solidified Inorganics Waste Matrix Code: S3190

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:	Source:		
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Commercial TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: No		
	Vitrified:	0.0	0.0	0.0	Source: Facility/Equipment Operation and Maintenance Waste		
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	131.0					
	Packaging Material Plastic:	37.0					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					

**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55-GALLON DRUM	0.4	0.0	0.0	0.0	0.0	0.4	55 Gallon Drum	0.4	0.0	0.0	0.0	0.0	0.4
Totals	0.4	0.0	0.0	0.0	0.0	0.4	Totals	0.4	0.0	0.0	0.0	0.0	0.4

As-Generated Form: Stored: 0.4 Projected: 0.0 Total: 0.4 Final Waste Form: Stored: 0.4 Projected: 0.0 Total: 0.4



TWBIR ID: **WV-M010**

**Appendix O**

DOE/CAO-95-1121

<b>WASTE STREAM DESCRIPTION</b>	This waste stream consists of spent absorbents generated from site operations. The media absorbed is not known for this waste stream.
<b>WASTE STREAM SOURCE</b>	Spent absorbents generated from site operations.
<b>CURRENT CONTAINER COMMENTS</b>	N/A
<b>EPA COMMENTS</b>	N/A
<b>MANAGEMENT COMMENTS</b>	WVNS TD-707, WVNS TD-713
<b>ACCEPTANCE COMMENTS</b>	NONE
<b>FINAL FORM COMMENTS</b>	N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-M012    Handling: CH    NMVP #: N/A    Stream Name: Glove Boxes    Inventory Date: 12/31/94  
 Local ID:    Type: TRU    Generator Site:    Final Waste Form: Uncategorized Metal    Waste Matrix Code: S5111

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS	TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:		
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Commercial TRU Waste	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No	
	Other Metals/Alloys:	1.0	0.0	0.0	Asbestos: No	
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: No	
	Vitrified:	0.0	0.0	0.0	Source: Remediation/D&D Waste	
	Cellulosics:	0.0	0.0	0.0		
	Rubber:	0.0	0.0	0.0		
	Plastics:	0.0	0.0	0.0		
	Solidified Inorganic Material:	0.0	0.0	0.0		
	Solidified Organic Material:	0.0	0.0	0.0		
	Cement (solidified):	0.0	0.0	0.0		
	Soils:	0.0	0.0	0.0		
	Packaging Material Steel:	131.0				
	Packaging Material Plastic:	37.0				
	Packaging Material Lead:	0.0				
	Packaging Material Steel Plug:	0.0				



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55-GALLON DRUM	0.2	0.0	0.0	0.0	0.0	0.2	55 Gallon Drum	0.2	0.0	0.0	0.0	0.0	0.2
Totals	0.2	0.0	0.0	0.0	0.0	0.2	Totals	0.2	0.0	0.0	0.0	0.0	0.2

As-Generated Form:    Stored: 0.2    Projected: 0.0    Total: 0.2    Final Waste Form:    Stored: 0.2    Projected: 0.0    Total: 0.2

<b>WASTE STREAM DESCRIPTION</b>	This waste stream consists of a glove box and general waste generated from the laboratory on-site as a result of previous decommissioning and decontamination activities and normal site operations.
<b>WASTE STREAM SOURCE</b>	Glove boxes and general waste generated from previous decommissioning and decontamination activities and normal site operations.
<b>CURRENT CONTAINER COMMENTS</b>	N/A
<b>EPA COMMENTS</b>	This waste stream is not considered mixed waste
<b>MANAGEMENT COMMENTS</b>	WVNS TD-551
<b>ACCEPTANCE COMMENTS</b>	NONE
<b>FINAL FORM COMMENTS</b>	N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-M013    Handling: CH    NMVP #: N/A    Stream Name: Sweeping Compound    Inventory Date: 12/31/94  
 Local ID:    Type: MTRU    Generator Site:    Final Waste Form: Solidified Inorganics    Waste Matrix Code: S3131

**AS-GENERATED  
EPA CODES**

D008, D007

**WASTE MATERIAL PARAMETERS (kg/m3)**

	Avg	Min	Max
Iron-base Metal/Alloys:	0.0	0.0	0.0
Aluminum-base Metal/Alloys:	0.0	0.0	0.0
Other Metals/Alloys:	0.0	0.0	0.0
Other Inorganic Material:	1.0	0.0	0.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	0.0	0.0	0.0
Rubber:	0.0	0.0	0.0
Plastics:	0.0	0.0	0.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	0.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	131.0		
Packaging Material Plastic:	37.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

**FINAL WASTE FORM DESCRIPTORS**

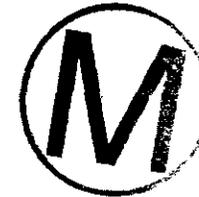
Category: Commercial TRU Waste  
 Residues: No  
 Asbestos: No  
 PCBs: No  
 Source: Facility/Equipment Operation and Maintenance Waste

**TRUCON CODE**

N/A

**FINAL FORM RADIONUCLIDES**

N/A



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55-GALLON DRUM	1.5	0.0	0.0	0.0	0.0	1.5	55 Gallon Drum	1.5	0.0	0.0	0.0	0.0	1.5
Totals	1.5	0.0	0.0	0.0	0.0	1.5	Totals	1.5	0.0	0.0	0.0	0.0	1.5

**As-Generated Form:** Stored: 1.5 Projected: 0.0 Total: 1.5    **Final Waste Form:** Stored: 1.5 Projected: 0.0 Total: 1.5

**WASTE STREAM DESCRIPTION** This waste stream consists of sweeping compound generated from normal site operations. The specific contents include grid and floor debris. This waste stream is considered as hazardous/radioactively contaminated based on the assumption that the waste contains lead and chromium contaminated paint chips.

**WASTE STREAM SOURCE** Grid and floor debris generated from normal site operations.

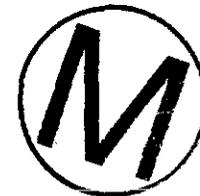
**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** It is not known whether paint chips are in this waste stream. Sampling and analysis are required.

**MANAGEMENT COMMENTS** WVNS TD-006, WVNS TD-009, WVNS TD-011, WVNS TD-025, WVNS TD-042, WVNS TD-048, WVNS TD-122

**ACCEPTANCE COMMENTS** NONE

**FINAL FORM COMMENTS** N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-M015 Handling: RH NMVP #: N/A Stream Name: Chemical Process Cell General Waste Inventory Date: 12/31/94  
 Local ID: N/A Type: TRU Generator Site: Final Waste Form: Heterogeneous Waste Matrix Code: S5420

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category	Source		
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Commercial TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		
	Other Metals/Alloys:	1.0	0.0	0.0	Asbestos: No		
	Other Inorganic Material:	1.0	0.0	0.0	PCBs: No		
	Vitrified:	0.0	0.0	0.0	Source: Remediation/D&D Waste		
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	434.0					
	Packaging Material Plastic:	0.0					
	Packaging Material Lead:	464.7					
	Packaging Material Steel Plug:	2145.1					

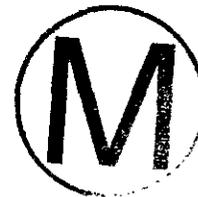


**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
370 cubic foot waste box	10.5	0.0	0.0	0.0	0.0	10.5	RH Canister	17.8	0.0	0.0	0.0	0.0	17.8
70 cubic ft. Type A waste box	7.9	0.0	0.0	0.0	0.0	7.9	Totals	17.8	0.0	0.0	0.0	0.0	17.8
Totals	18.4	0.0	0.0	0.0	0.0	18.4							

As-Generated Form: Stored: 18.4 Projected: 0.0 Total: 18.4 Final Waste Form: Stored: 17.8 Projected: 0.0 Total: 17.8

<b>WASTE STREAM DESCRIPTION</b>	This waste stream was generated as a result of the decommissioning and decontamination of the Chemical Process Cell (CPC). The CPC was previously used to reprocess spent fuel rods. The specific contents of this container include vacuum lines, air lines, floor debris, pipe, & hoses.
<b>WASTE STREAM SOURCE</b>	Floor debris, vacuum lines, pipe, and hose generated from clean-up of the Chemical Process Cell.
<b>CURRENT CONTAINER COMMENTS</b>	Contains 6, 44"by 44" by 44" boxes
<b>EPA COMMENTS</b>	N/A
<b>MANAGEMENT COMMENTS</b>	WVNS container ID's for these boxes: TC-172, TD-173, TD-174, TD-175, 3E-1/7E-5/7E-8
<b>ACCEPTANCE COMMENTS</b>	NONE
<b>FINAL FORM COMMENTS</b>	WVDP does not currently have RH canisters available. It is estimated that 20 canisters would be required to repackage this waste stream for shipment. No RH-TRU canisters currently exist at WV. The assumption is that all RH-TRU currently stored waste will be repackaged into RH-TRU canisters at a later date.



Appendix O

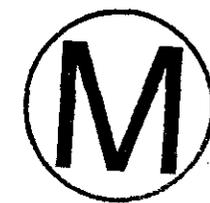
DOE/CAO-95-1121

TWBIR ID: WV-T001

**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-T001 Handling: CH NMVP #: N/A Stream Name: Fissile Material - Solids Inventory Date: 12/31/94  
 Local ID: N/A Type: TRU Generator Site: Final Waste Form: Heterogeneous Waste Matrix Code: S5490

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES	
	Avg	Min	Max	Category:			Isotope ( Ci/m3 )	
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Commercial TRU Waste	N/A	U(unspec)	0.00E+00
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues:		Pu-239	0.00E+00
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos:		Pu(unspec)	0.00E+00
	Other Inorganic Material:	1.0	0.0	0.0	PCBs:			
	Vitrified:	0.0	0.0	0.0	Source:	Remediation/D&D Waste		
	Cellulosics:	0.0	0.0	0.0				
	Rubber:	0.0	0.0	0.0				
	Plastics:	0.0	0.0	0.0				
	Solidified Inorganic Material:	0.0	0.0	0.0				
	Solidified Organic Material:	0.0	0.0	0.0				
	Cement (solidified):	0.0	0.0	0.0				
	Soils:	0.0	0.0	0.0				
	Packaging Material Steel:	131.0						
	Packaging Material Plastic:	37.0						
	Packaging Material Lead:	0.0						
	Packaging Material Steel Plug:	0.0						



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55-GALLON DRUM	3.8	0.0	0.0	0.0	0.0	3.8	55 Gallon Drum	3.7	0.0	0.0	0.0	0.0	3.7
Totals	3.8	0.0	0.0	0.0	0.0	3.8	Totals	3.7	0.0	0.0	0.0	0.0	3.7

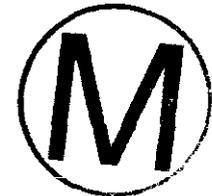
As-Generated Form: Stored: 3.8 Projected: 0.0 Total: 3.8 Final Waste Form: Stored: 3.7 Projected: 0.0 Total: 3.7

TWBIR ID: **WV-T001**

**Appendix O**

DOE/CAO-95-1121

<b>WASTE STREAM DESCRIPTION</b>	This waste stream consists of solid fissile material generated from previous decontamination and decommissioning activities. The specific contents include CUNO filters, vacuum cans, glove box debris, etc.
<b>WASTE STREAM SOURCE</b>	Solid fissile material generated from previous decontamination and decommissioning activities.
<b>CURRENT CONTAINER COMMENTS</b>	N/A
<b>EPA COMMENTS</b>	N/A
<b>MANAGEMENT COMMENTS</b>	WVNS 55-gallon drum container ID's: TD-583, TD-461, TD-507, TD-509, TD-502, TD-506, TD-505, TD-476, TD-500, TD-474, TD-471, TD-492, TD-602, TD-932, TD-715, TD-933, TD-497, TD-797
<b>ACCEPTANCE COMMENTS</b>	NONE
<b>FINAL FORM COMMENTS</b>	It estimated the 18, 55-gallon currently in storage could be consolidated into 15 drums.



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-T002 Handling: CH NMVP #: N/A Stream Name: Fissile Material - Alpha Lab Liquids Inventory Date: 12/31/94  
 Local ID: Type: TRU Generator Site: Final Waste Form: Solidified Inorganics Waste Matrix Code: X6900

**AS-GENERATED  
EPA CODES**

N/A

**WASTE MATERIAL PARAMETERS (kg/m3)**

	Avg	Min	Max
Iron-base Metal/Alloys:	0.0	0.0	0.0
Aluminum-base Metal/Alloys:	0.0	0.0	0.0
Other Metals/Alloys:	0.0	0.0	0.0
Other Inorganic Material:	1.0	0.0	0.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	0.0	0.0	0.0
Rubber:	0.0	0.0	0.0
Plastics:	0.0	0.0	0.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	0.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	131.0		
Packaging Material Plastic:	37.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

**FINAL WASTE FORM DESCRIPTORS**

Category: Commercial TRU Waste  
 Residues: No  
 Asbestos: No  
 PCBs: No  
 Source: Remediation/D&D Waste

**TRUCON CODE**

N/A

**FINAL FORM RADIONUCLIDES**

N/A

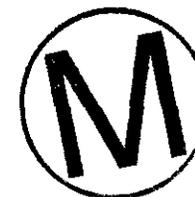


**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55-GALLON DRUM	0.6	0.0	0.0	0.0	0.0	0.6	55 Gallon Drum	0.6	0.0	0.0	0.0	0.0	0.6
<b>Totals</b>	<b>0.6</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.6</b>	<b>Totals</b>	<b>0.6</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.6</b>

**As-Generated Form:** Stored: 0.6 Projected: 0.0 Total: 0.6 **Final Waste Form:** Stored: 0.6 Projected: 0.0 Total: 0.6

<b>WASTE STREAM DESCRIPTION</b>	This waste stream consists of liquid waste stream with associated fissile material generated from previous decontamination and decommissioning activities. The specific contents include Alpha contaminated laboratory liquids.
<b>WASTE STREAM SOURCE</b>	Liquid waste stream with associated fissile material generated from previous decontamination and decommissioning activities.
<b>CURRENT CONTAINER COMMENTS</b>	N/A
<b>EPA COMMENTS</b>	This waste stream is not mixed waste
<b>MANAGEMENT COMMENTS</b>	WVNS TD-566, WVNS TD-560, WVNS TD-557
<b>ACCEPTANCE COMMENTS</b>	NONE
<b>FINAL FORM COMMENTS</b>	N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-T003 | Handling: CH | NMVP #: N/A | Stream Name: Fissile Material-UNH Solution | Inventory Date: 12/31/94  
 Local ID: N/A | Type: TRU | Generator Site: | Final Waste Form: Solidified Inorganics | Waste Matrix Code: L1200

AS-GENERATED EPA CODES			WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
			Avg	Min	Max	Category:			
N/A			Iron-base Metal/Alloys:	0.0	0.0	0.0	Commercial TRU Waste	N/A	N/A
			Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		
			Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		
			Other Inorganic Material:	0.0	0.0	0.0	PCBs: No		
			Vitrified:	0.0	0.0	0.0	Source: Remediation/D&D Waste		
			Cellulosics:	0.0	0.0	0.0			
			Rubber:	0.0	0.0	0.0			
			Plastics:	0.0	0.0	0.0			
			Solidified Inorganic Material:	0.0	0.0	0.0			
			Solidified Organic Material:	0.0	0.0	0.0			
			Cement (solidified):	0.0	0.0	0.0			
			Soils:	0.0	0.0	0.0			
			Packaging Material Steel:	131.0					
			Packaging Material Plastic:	37.0					
			Packaging Material Lead:	0.0					
			Packaging Material Steel Plug:	0.0					



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55-GALLON DRUM	0.2	0.0	0.0	0.0	0.0	0.2	55 Gallon Drum	0.2	0.0	0.0	0.0	0.0	0.2
<b>Totals</b>	<b>0.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.2</b>	<b>Totals</b>	<b>0.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.2</b>

**As-Generated Form:** Stored: 0.2 Projected: 0.0 Total: 0.2 | **Final Waste Form:** Stored: 0.2 Projected: 0.0 Total: 0.2

<b>WASTE STREAM DESCRIPTION</b>	This waste Stream consists of liquid waste stream with associated fissile material generated from previous decontamination and decommissioning activities. The specific contents include Uranyl Nitrate Hexahydrate (UNH) solution.
<b>WASTE STREAM SOURCE</b>	Uranyl Nitrate Hexahydrate solution containing fissile material generated from previous decontamination and decommissioning activities
<b>CURRENT CONTAINER COMMENTS</b>	N/A
<b>EPA COMMENTS</b>	It is not known whether this waste stream is acidic.
<b>MANAGEMENT COMMENTS</b>	WVNS TD-501
<b>ACCEPTANCE COMMENTS</b>	NONE
<b>FINAL FORM COMMENTS</b>	N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-T004    Handling: CH    NMVP #: N/A    Stream Name: Fissile Material - Other    Inventory Date: 12/31/94  
 Local ID:    Type: TRU    Generator Site:    Final Waste Form: Unknown    Waste Matrix Code: U9999

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:			
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Commercial TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: No		
	Vitrified:	0.0	0.0	0.0	Source: Remediation/D&D Waste		
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	1.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	131.0					
	Packaging Material Plastic:	37.0					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55-GALLON DRUM	0.4	0.0	0.0	0.0	0.0	0.4	55 Gallon Drum	0.4	0.0	0.0	0.0	0.0	0.4
Totals	0.4	0.0	0.0	0.0	0.0	0.4	Totals	0.4	0.0	0.0	0.0	0.0	0.4

As-Generated Form:    Stored: 0.4    Projected: 0.0    Total: 0.4    Final Waste Form:    Stored: 0.4    Projected: 0.0    Total: 0.4

TWBIR ID: **WV-T004**

**Appendix O**

DOE/CAO-95-1121

<b>WASTE STREAM DESCRIPTION</b>	This waste stream consists of liquid waste with associated fissile material generated from previous decontamination and decommissioning activities. The specific contents are unknown.
<b>WASTE STREAM SOURCE</b>	Fissile material generated from previous decontamination and decommissioning activities.
<b>CURRENT CONTAINER COMMENTS</b>	N/A
<b>EPA COMMENTS</b>	the specific contents of this waste stream are unknown.
<b>MANAGEMENT COMMENTS</b>	WVNS TD-478, WVNS TD-640
<b>ACCEPTANCE COMMENTS</b>	NONE
<b>FINAL FORM COMMENTS</b>	N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-T006 Handling: CH NMVP #: N/A Stream Name: TRU General Waste Inventory Date: 12/31/94  
 Local ID: N/A Type: TRU Generator Site: Final Waste Form: Heterogeneous Waste Matrix Code: S5490

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS	TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max			
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Category: Commercial TRU Waste	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No	
	Other Metals/Alloys:	1.0	0.0	0.0	Asbestos: No	
	Other Inorganic Material:	1.0	0.0	0.0	PCBs: No	
	Vitrified:	0.0	0.0	0.0	Source: Facility/Equipment Operation and Maintenance Waste	
	Cellulosics:	0.0	0.0	0.0		
	Rubber:	1.0	0.0	0.0		
	Plastics:	1.0	0.0	0.0		
	Solidified Inorganic Material:	0.0	0.0	0.0		
	Solidified Organic Material:	0.0	0.0	0.0		
	Cement (solidified):	0.0	0.0	0.0		
	Soils:	0.0	0.0	0.0		
	Packaging Material Steel:	143.4				
	Packaging Material Plastic:	17.0				
	Packaging Material Lead:	0.0				
	Packaging Material Steel Plug:	0.0				



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55-GALLON DRUM	11.3	5.7	9.4	18.9	18.9	64.3	55 Gallon Drum	11.2	4.2	6.2	12.5	12.5	46.6
70 cubic ft. Type A waste box	2.0	5.9	9.9	19.8	19.8	57.4	Standard Waste Box	1.9	5.7	9.4	18.9	18.9	54.8
<b>Totals</b>	<b>13.3</b>	<b>11.6</b>	<b>19.3</b>	<b>38.7</b>	<b>38.7</b>	<b>121.7</b>	<b>Totals</b>	<b>13.1</b>	<b>9.8</b>	<b>15.7</b>	<b>31.4</b>	<b>31.4</b>	<b>101.4</b>

As-Generated Form: Stored: 13.3 Projected: 108.4 Total: 121.7 Final Waste Form: Stored: 13.1 Projected: 88.3 Total: 101.4

**WASTE STREAM DESCRIPTION** This waste stream consists of radiologically and hazardous general site waste generated from normal site operations. The specific contents include but are not limited to anticontamination clothing, hoses, glove bags, and tools.

**WASTE STREAM SOURCE** Radiologically and hazardous general site waste generated from normal site operation.

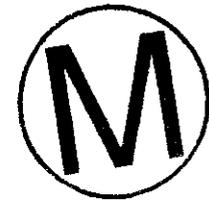
**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** none

**MANAGEMENT COMMENTS** WVNS 55-gallon drum Container ID #s for this waste stream are: 4581, 6224, TD-002, TD-024, TD-026, TD-027, TD-030, TD-037, TD-049, TD-058, TD-102, TD-103, TD-110, TD-113, TD-115, TD-117, TD-120, TD-132, TD-139, TD-142, TD-260, TD-305, TD-332, TD-379, TD-386, TD-395, TD-415, TD-422, TD-440, TD-441, TD-442, TD-445, TD-477, TD-522, TD-525, TD-528, TD-529, TD-531, TD-553, TD-573, TD-585, TD-587, TD-591, TD-595, TD-610, TD-632, TD-637, TD-647, TD-648, TD-649, TD-659, TD-719, TD-937. For 1994, TD-1015, TD-1034, TD-1039, TD-969 and box TC-052.

**ACCEPTANCE COMMENTS** NONE

**FINAL FORM COMMENTS** It is estimated that with volume reduction, 170 containers would be needed for shipment.



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-T009    Handling: CH    NMVP #: N/A    Stream Name: TRU General Laboratory Waste    Inventory Date: 12/31/94  
 Local ID: N/A    Type: TRU    Generator Site:    Final Waste Form: Heterogeneous    Waste Matrix Code: S5420

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:			
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Commercial TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		
	Other Inorganic Material:	1.0	0.0	0.0	PCBs: No		
	Vitrified:	0.0	0.0	0.0	Source: Analytical Laboratory Waste		
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	131.0					
	Packaging Material Plastic:	37.0					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes					Final Waste Form Volumes							
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55-GALLON DRUM	2.1	4.4	7.3	14.7	14.7	43.3	55 Gallon Drum	2.1	3.1	5.2	10.4	10.4	31.2
Totals	2.1	4.4	7.3	14.7	14.7	43.3	Totals	2.1	3.1	5.2	10.4	10.4	31.2

As-Generated Form:    Stored: 2.1    Projected: 41.2    Total: 43.3    Final Waste Form:    Stored: 2.1    Projected: 29.1    Total: 31.2

TWBIR ID: **WV-T009**

**Appendix O**

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**WASTE STREAM DESCRIPTION** This waste stream consists of general laboratory waste generated on-site. The specific contents include anticontamination clothing, bags, wipes, samples, etc.

**WASTE STREAM SOURCE** General laboratory waste generated on-site.

**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** none

**MANAGEMENT COMMENTS** WVNS Container ID's for these 10, 55-gallon drums; TD-026, TD-142, TD-659, TD-1009, TD-1028, TD-1029, TD-1043, TD-958, TD-963, TD-966, TD-969.

**ACCEPTANCE COMMENTS** NONE

**FINAL FORM COMMENTS** It is estimated that the 10 containers currently in storage and the 196 projected containers could be volume reduced down to 140, 55-gallon drums.



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-T011 Handling: CH NMVP #: N/A Stream Name: TRU Glove Boxes Inventory Date: 12/31/94  
 Local ID: Type: TRU Generator Site: Final Waste Form: Uncategorized Metal Waste Matrix Code: S5111

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:	Source:		
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Commercial TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		
	Other Metals/Alloys:	1.0	0.0	0.0	Asbestos: No		
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: No		
	Vitrified:	0.0	0.0	0.0			
	Cellulosics:	0.0	0.0	0.0	Source: Remediation/D&D Waste		
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	131.0					
	Packaging Material Plastic:	37.0					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					

**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55-GALLON DRUM	0.2	0.0	0.0	0.0	0.0	0.2	55 Gallon Drum	0.2	0.0	0.0	0.0	0.0	0.2
Totals	0.2	0.0	0.0	0.0	0.0	0.2	Totals	0.2	0.0	0.0	0.0	0.0	0.2

As-Generated Form: Stored: 0.2 Projected: 0.0 Total: 0.2 Final Waste Form: Stored: 0.2 Projected: 0.0 Total: 0.2



**WASTE STREAM DESCRIPTION** This waste stream consists of radiologically and hazardous glove boxes generated from decommissioning and decontamination activities. The specific contents include glove boxes and tools.

**WASTE STREAM SOURCE** Radiologically and hazardous glove boxes generated from decommissioning and decontamination activities.

**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** None

**MANAGEMENT COMMENTS** WVNS Container ID number is TD-370

**ACCEPTANCE COMMENTS** NONE

**FINAL FORM COMMENTS** NONE



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-T014 | Handling: RH | NMVP #: N/A | Stream Name: Chemical Process Cell Vessels | Inventory Date: 12/31/94  
 Local ID: | Type: TRU | Generator Site: | Final Waste Form: Uncategorized Metal | Waste Matrix Code: S5111

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:	Source:		
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Commercial TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		
	Other Metals/Alloys:	1.0	0.0	0.0	Asbestos: No		
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: No		
	Vitrified:	0.0	0.0	0.0	Source: Remediation/D&D Waste		
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	434.0					
	Packaging Material Plastic:	0.0					
	Packaging Material Lead:	464.7					
	Packaging Material Steel Plug:	2145.1					



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Various size metal waste boxes	270.0	0.0	0.0	0.0	0.0	270.0	RH Canister	89.9	0.0	0.0	0.0	0.0	89.9
<b>Totals</b>	<b>270.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>270.0</b>	<b>Totals</b>	<b>89.9</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>89.9</b>

As-Generated Form: Stored: 270.0 Projected: 0.0 Total: 270.0 | Final Waste Form: Stored: 89.9 Projected: 0.0 Total: 89.9

**WASTE STREAM DESCRIPTION** This waste stream was generated as a result of the decommissioning and decontamination of the Chemical Process Cell. The specific contents of these containers include evaporators, dissolvers, tanks, condensers, etc. These vessels were previously used to reprocess spent fuel rods.

**WASTE STREAM SOURCE** Vessels removed from the Chemical Process Cell.

**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** N/A

**MANAGEMENT COMMENTS** 3C-1 (fuel dissolver), 3C-2 (fuel dissolver), 7C-2 (LLW evaporator), 3E-2/3E-3 (dissolver condensers), 7C-4 (recycle evaporator), 7D-10 (LLW accountability and neutralizer tank), 7C-1 (HLW evaporator), 3D-1 (fuel accountability and feed adjustment tank), 7D-4 (HLW accountability and neutralizer tank)

**ACCEPTANCE COMMENTS** NONE

**FINAL FORM COMMENTS** The West Valley Demonstration Project does not currently have RH Canisters. It is estimated that 101 canisters would be needed to repackage the waste for shipment following size reduction. No RH-TRU canisters currently exist at WV. The assumption is that all RH-TRU currently stored waste will be repackaged into RH-TRU canisters at a later date.



Appendix O

DOE/CAO-95-1121

TWBIR ID: WV-T016

**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-T016 | Handling: RH | NMVP #: N/A | Stream Name: Chemical Process Cell Miscellaneous Equipment | Inventory Date: 12/31/94  
 Local ID: | Type: TRU | Generator Site: | Final Waste Form: Uncategorized Metal | Waste Matrix Code: S5111

**AS-GENERATED EPA CODES**

**WASTE MATERIAL PARAMETERS (kg/m3)**

**FINAL WASTE FORM DESCRIPTORS**

**TRUCON CODE**

**FINAL FORM RADIONUCLIDES**

	Avg	Min	Max
Iron-base Metal/Alloys:	1.0	0.0	0.0
Aluminum-base Metal/Alloys:	0.0	0.0	0.0
Other Metals/Alloys:	0.0	0.0	0.0
Other Inorganic Material:	0.0	0.0	0.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	0.0	0.0	0.0
Rubber:	0.0	0.0	0.0
Plastics:	0.0	0.0	0.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	0.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	434.0		
Packaging Material Plastic:	0.0		
Packaging Material Lead:	464.7		
Packaging Material Steel Plug:	2145.1		

Category: Commercial TRU Waste  
 Residues: No  
 Asbestos: No  
 PCBs: No  
 Source: Remediation/D&D Waste

N/A

N/A



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
432 cubic ft. 6ft by 6ft by 12 ft.	146.8	0.0	0.0	0.0	0.0	146.8	RH Canister	146.8	0.0	0.0	0.0	0.0	146.8
<b>Totals</b>	<b>146.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>146.8</b>	<b>Totals</b>	<b>146.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>146.8</b>

**As-Generated Form:** Stored: 146.8 Projected: 0.0 Total: 146.8 | **Final Waste Form:** Stored: 146.8 Projected: 0.0 Total: 146.8

**WASTE STREAM DESCRIPTION** This waste stream was generated as a result of the decommissioning and decontamination of the Chemical Process Cell (CPC). The specific contents of these containers include various jumpers and miscellaneous equipment, etc. The CPC was previously used to reprocess spent fuel rods.

**WASTE STREAM SOURCE** Various jumpers and miscellaneous equipment generated from the decontamination and decommissioning of the Chemical Process Cell

**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** N/A

**MANAGEMENT COMMENTS** Jumper Boxes J1 Through J-12 Each jumper box is 432 cubic feet and contains a inner container which houses the jumpers and misc. waste

**ACCEPTANCE COMMENTS** NONE

**FINAL FORM COMMENTS** The West Valley Demonstration Project does not currently have RH canisters. It is estimated that approximately 165 canisters would be needed to repackage the waste for shipment. No RH-TRU canisters currently exist at WV. The assumption is that all RH-TRU currently stored waste will be repackaged into RH-TRU canisters at a later date.



Appendix O

DOE/CAO-95-1121

TWBIR ID: WV-T017

**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-T017    Handling: CH    NMVP #: N/A    Stream Name: Spent Filter Media    Inventory Date: 12/31/94  
 Local ID:    Type: TRU    Generator Site:    Final Waste Form: Solidified Inorganics    Waste Matrix Code: S3115

**AS-GENERATED EPA CODES**

**WASTE MATERIAL PARAMETERS (kg/m3)**

**FINAL WASTE FORM DESCRIPTORS**

**TRUCON CODE**

**FINAL FORM RADIONUCLIDES**

N/A

	Avg	Min	Max
Iron-base Metal/Alloys:	0.0	0.0	0.0
Aluminum-base Metal/Alloys:	0.0	0.0	0.0
Other Metals/Alloys:	0.0	0.0	0.0
Other Inorganic Material:	1.0	0.0	0.0
Vitrified:	0.0	0.0	0.0
Cellulosics:	0.0	0.0	0.0
Rubber:	0.0	0.0	0.0
Plastics:	0.0	0.0	0.0
Solidified Inorganic Material:	0.0	0.0	0.0
Solidified Organic Material:	0.0	0.0	0.0
Cement (solidified):	0.0	0.0	0.0
Soils:	0.0	0.0	0.0
Packaging Material Steel:	154.0		
Packaging Material Plastic:	0.0		
Packaging Material Lead:	0.0		
Packaging Material Steel Plug:	0.0		

Category: Commercial TRU Waste  
 Residues: No  
 Asbestos: No  
 PCBs: No  
 Source: Facility/Equipment Operation and Maintenance Waste

N/A

N/A

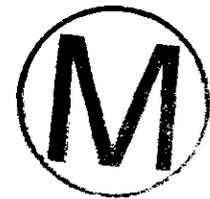


**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
80 cubic foot HIC	2.3	0.0	0.0	0.0	0.0	2.3	Standard Waste Box	3.8	0.0	0.0	0.0	0.0	3.8
<b>Totals</b>	<b>2.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>2.3</b>	<b>Totals</b>	<b>3.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>3.8</b>

**As-Generated Form:**    Stored: 2.3    Projected: 0.0    Total: 2.3    **Final Waste Form:**    Stored: 3.8    Projected: 0.0    Total: 3.8

<b>WASTE STREAM DESCRIPTION</b>	This waste stream consists of spent filter media generated from filtration of the Fuel Receiving & Storage pool where the remaining spent fuel rods are stored.
<b>WASTE STREAM SOURCE</b>	Spent filter media generated from normal site activities.
<b>CURRENT CONTAINER COMMENTS</b>	N/A
<b>EPA COMMENTS</b>	N/A
<b>MANAGEMENT COMMENTS</b>	HIC-A
<b>ACCEPTANCE COMMENTS</b>	1, 80 cubic foot High Integrity Container
<b>FINAL FORM COMMENTS</b>	@, standard waste boxes would be required to ship this waste stream.



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-W024 Handling: CH NMVP #: N/A Stream Name: TRU Lead Inventory Date: 12/31/94  
 Local ID: NA Type: MTRU Generator Site: WV Final Waste Form: Lead/Cadmium Metal Waste Waste Matrix Code: S5112

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:	Source:		
D008	Iron-base Metal/Alloys:	0.0	0.0	0.0	Commercial TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		
	Other Inorganic Material:	0.0	0.0	0.0	PCBs: No		
	Vitrified:	0.0	0.0	0.0			
	Cellulosics:	0.0	0.0	0.0	Source: Discarding Excess/Expired Materials		
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	131.0					
	Packaging Material Plastic:	37.0					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55-GALLON DRUM	0.2	0.0	0.0	0.0	0.0	0.2	55 Gallon Drum	2.1	0.0	0.0	0.0	0.0	2.1
70 cubic ft. Type A waste box	2.0	0.0	0.0	0.0	0.0	2.0	Totals	2.1	0.0	0.0	0.0	0.0	2.1
Totals	2.2	0.0	0.0	0.0	0.0	2.2							

As-Generated Form: Stored: 2.2 Projected: 0.0 Total: 2.2 Final Waste Form: Stored: 2.1 Projected: 0.0 Total: 2.1

**WASTE STREAM DESCRIPTION** This waste stream consists of transuranic lead in the following configurations: lead bricks and lead shielding. Note: The size of the waste stream components may be highly variable. In addition to the lead materials listed above, the following wastes are also part of the contents of the containers included in this waste stream: glassware, bags, bottles, oven, ultrasonic chiller, and an old style 8D-2 sample cask. The wastes included in this stream are characterized as mixed because they exhibit the characteristic of toxicity for lead.

**WASTE STREAM SOURCE** This waste stream consists of lead as specified in section 3.1. This waste was previously used as shielding in radiologically contaminated areas and was identified as excess material.

**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** The high confidence level for regulated contaminant characteristics data is based on the process knowledge (i.e., content descriptions) that lead is present in these containers. The specific amount of elemental lead present in these containers is not available at this time.

**MANAGEMENT COMMENTS** WVNS Container ID #s for this waste stream are: TC-100, TD-416.

**ACCEPTANCE COMMENTS** None.

**FINAL FORM COMMENTS** following decontamination of the lead as a pretreatment step, it is anticipated that this waste stream will no longer be classified as transuranic waste and there will be no TRU disposal required.



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-W041 | Handling: CH | NMVP #: N/A | Stream Name: TRU Paint (Dry) with Metals | Inventory Date: 12/31/94  
 Local ID: NA | Type: MTRU | Generator Site: WV | Final Waste Form: Heterogeneous | Waste Matrix Code: S5900

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:			
D008, D007	Iron-base Metal/Alloys:	0.0	0.0	0.0	Commercial TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues: No		
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos: No		
	Other Inorganic Material:	1.0	0.0	0.0	PCBs: No		
	Vitrified:	0.0	0.0	0.0	Source: Remediation/D&D Waste		
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	131.0					
	Packaging Material Plastic:	37.0					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes						Final Waste Form Volumes						
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
55-GALLON DRUM	0.4	0.0	0.0	0.0	0.0	0.4	55 Gallon Drum	0.4	0.0	0.0	0.0	0.0	0.4
<b>Totals</b>	<b>0.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.4</b>	<b>Totals</b>	<b>0.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.4</b>

As-Generated Form: Stored: 0.4 | Projected: 0.0 | Total: 0.4 | Final Waste Form: Stored: 0.4 | Projected: 0.0 | Total: 0.4

TWBIR ID: WV-W041

Appendix O

DOE/CAO-95-1121

**WASTE STREAM DESCRIPTION** This waste stream consists of transuranic paint waste (i.e., paint cans) and the following nonhazardous wastes: glove box gloves, glove box debris, wipes, general waste, boots, sample bottles, beakers, and flasks. This waste was characterized as mixed because it is assumed to exhibit the characteristic of toxicity for chromium and lead.

**WASTE STREAM SOURCE** This waste stream consists of transuranic paint waste and other nonhazardous waste as specified in section 3.1. This waste was generated as a result of decontamination and decommissioning activities.

**CURRENT CONTAINER COMMENTS** N/A

**EPA COMMENTS** The medium level of confidence for regulated contaminant characteristics data is based on the uncertainty of whether or not the dried paint that is assumed to be present in the paint cans contains lead and chromium. The characterization of D007 and D008 was made based on process knowledge (i.e., lead and chromium containing paints were previously used on-site).

**MANAGEMENT COMMENTS** WVNS container ID #s for this waste stream are: TD-417, TD-724.

**ACCEPTANCE COMMENTS** None.

**FINAL FORM COMMENTS** N/A



**Non-WIPP TRU WASTE BASELINE INVENTORY WASTE PROFILE**

HQ ID: WV-Z001	Handling: U	NMVP #: N/A	Stream Name: West Valley Buried TRU Waste	Inventory Date:
Local ID:	Type: TRU	Generator Site:	Final Waste Form: Unknown	Waste Matrix Code:

AS-GENERATED EPA CODES	WASTE MATERIAL PARAMETERS (kg/m3)			FINAL WASTE FORM DESCRIPTORS		TRUCON CODE	FINAL FORM RADIONUCLIDES
	Avg	Min	Max	Category:			
N/A	Iron-base Metal/Alloys:	0.0	0.0	0.0	Commercial TRU Waste	N/A	N/A
	Aluminum-base Metal/Alloys:	0.0	0.0	0.0	Residues:		
	Other Metals/Alloys:	0.0	0.0	0.0	Asbestos:		
	Other Inorganic Material:	0.0	0.0	0.0	PCBs:		
	Vitrified:	0.0	0.0	0.0	Source:		
	Cellulosics:	0.0	0.0	0.0			
	Rubber:	0.0	0.0	0.0			
	Plastics:	0.0	0.0	0.0			
	Solidified Inorganic Material:	0.0	0.0	0.0			
	Solidified Organic Material:	0.0	0.0	0.0			
	Cement (solidified):	0.0	0.0	0.0			
	Soils:	0.0	0.0	0.0			
	Packaging Material Steel:	0.0					
	Packaging Material Plastic:	0.0					
	Packaging Material Lead:	0.0					
	Packaging Material Steel Plug:	0.0					



**WASTE VOLUME DETAIL (cu. meters)**

Container	As-Generated Waste Form Volumes					Final Waste Form Volumes							
	Stored	Pre-97	98-02	03-12	13-22	Totals	Container	Stored	Pre-97	98-02	03-12	13-22	Totals
Not contained	1353.0	0.0	0.0	0.0	0.0	1353.0							
Totals	1353.0	0.0	0.0	0.0	0.0	1353.0							

As-Generated Form: Stored: 1353.0 Projected: 0.0 Total: 1353.0 Final Waste Form: Stored: 0.0 Projected: 0.0 Total: 0.0

WASTE STREAM DESCRIPTION N/A

WASTE STREAM SOURCE

A total of approximately 1,353 m<sup>3</sup> of TRU-contaminated waste is buried at the West Valley Demonstration Project site. As of December 31, 1993, the as-stored radioactivity from the TRU radionuclides associated with this volume of buried waste is estimated to be 652,000 Curies. Information about non-TRU radionuclides and about decayed radioactivity is not available. This waste will not go to WIPP.

CURRENT CONTAINER COMMENTS N/A

EPA COMMENTS

MANAGEMENT COMMENTS N/A

ACCEPTANCE COMMENTS N/A

FINAL FORM COMMENTS

